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651. AJELLO (L.). **The relation of veterinary mycology to public health.**—*Proc. Book Amer. vet. med. Ass.*, 90th Ann. Meet., pp. 423–426, 1953.

The author comments on the resurgence of interest in medical mycoses and the susceptibility of animals to most of the human pathogenic fungi. Histoplasmosis (*Histoplasma capsulatum*) [2, No. 546] occurs in dogs (75 fatal cases have been reported) and the pathogen may be present in the urine, faeces, etc., of infected dogs. The fungus also exists in the soil [2, Nos. 1428, 2281, 2451, 2452], probably as a saprophyte. In the Ohio–Mississippi river valley area large numbers of cattle, horses, and sheep develop infections. Coccidioidomycosis (*Coccidioides immitis*) [1, No. 100] is found in certain semi-arid regions of North, Central, and South America. Cattle (1·3 per cent. in cattle examined in an abbatoir in Arizona), sheep, dogs, and burros [1, No. 1156] have been found infected and approximately 15 per cent. of certain rodents [2, No. 100] in enzootic areas parasitized by the fungus. Cryptococcosis (*Cryptococcus neoformans*) has recently been shown to be responsible for several outbreaks of bovine mastitis in the United States [2, No. 43]. During the past five years over 800,000 head of cattle have been found affected by actinomycosis and actinobacillosis. Skin and hair infections with bovine *Trichophyton mentagrophytes* and *T. verrucosum* are prevalent in rural communities with concurrent high incidence of infection in rural families. *Microsporum canis* is frequently transmitted from cats and dogs to man; *M. gypseum*, a component of the soil mycoflora, commonly serves as a source of infection to both man and animals; and *M. audouini* is transmitted from person to person but two cases of canine infections have been reported [1, No. 2182]. Before animal mycoses can be suppressed and eventually eliminated as diseases hazardous to man much remains to be learned regarding their prevalence and transmission.

652. DURIE (E. BEATRIX) & BROWN (SHIRLEY). **Fungous infections in hospital practice.**—*Med. J. Aust.*, 40 (ii), 22, pp. 813–814, 1953.

Between 1st June, 1949, and 31st May, 1953, 134 cultures out of 533 made from skin scrapings, hair, vesicles, and nails at the Royal North Shore Hospital, Sydney, yielded fungi, the species most frequently encountered being *Microsporum canis* (in 69 cases), *Candida albicans* (26) [1, Nos. 758, 1939, 1944], *Trichophyton mentagrophytes* (20), and *T. crateriforme* [*T. tonsurans*] (12). Others represented in the material were *Epidermophyton floccosum*, *M. audouini*, *M. fulvum* [*M. gypseum*], *T. rubrum*, *T. sulphureum*, *Sporotrichum schencki*, *Hormodendrum* [*Phialophora*] *pedrosoi*, *Nocardia asteroides*, *C. parakrusei*, and *C. tropicalis*. In 34 cases shown by direct examination to harbour spores or mycelium or both, no pathogenic fungus could be grown: two infections by *Malassezia furfur* were comprised in this group.

From 442 specimens from sources other than the skin *Histoplasma capsulatum* [2, No. 307], *Cryptococcus neoformans*, and *Geotrichum* sp. were each grown once, while 171 cultures of *Candida albicans* were obtained. Of 29 other strains of *Candida*, six were identified as *C. stellatoidea*, 10 as *C. krusei*,

four as *C. parakrusei*, and two as *C. tropicalis*. *Aspergillus sulphureus* was grown from an empyema cavity and sputum.

A list is given of the fungal contaminants occurring in 69 of the cultures.

653. McLaren (J. W.). **Modern trends in diagnostic radiology** (second series), xi+413 pp., 359 figs., London, Butterworth & Co. (Publishers) Ltd., 1953.

Chapter 6 (pp. 53–89, 31 figs.) of this treatise, dealing with the radiological appearances of pulmonary diseases of fungal origin, is contributed by J. W. Pierce and comprises sections on actinomycosis (*Actinomyces israeli* and *Nocardia asteroides*), aspergillosis (*Aspergillus* spp., principally *A. fumigatus*), torulosis (*Cryptococcus neoformans*), North American blastomycosis (*Blastomyces dermatitidis*), coccidioidomycosis (*Coccidioides immitis*), and histoplasmosis (*Histoplasma capsulatum*).

654. Haschek (H.). **Pilzbefunde im Harn.** [Fungus findings in urine.]—*Z. Urol.*, 46, 1, pp. 44–48, 1953.

In general, no special pathogenic significance attaches to the detection of fungi in urine, but a *Fusarium* was etiologically implicated in one case of kidney disease at the Vienna General Polyclinic and a *Candida* in two others.

655. Smith (D. T.). **Laboratory diagnosis of fungus diseases.**—*J. Louisiana med. Soc.*, 105, 9, pp. 340–343, 1953.

Notes are given on laboratory procedures of primary importance in the diagnosis of fungal infections, i.e. direct examination of pus, sputum, and other secretions or exudates, biopsies, cultures, and skin and serological tests.

656. Leduc (A.). **Mycoses pulmonaires.** [Pulmonary mycoses.]—*Un. méd. Can.*, 82, 7, pp. 790–793, 1953.

In connexion with the identification during the past three years at the Hôpital Notre-Dame, Montreal, Canada, of four cases of North American blastomycosis (*Blastomyces dermatitidis*), and one each of nocardiosis (*Nocardia asteroides*), torulosis (*Cryptococcus neoformans*), and moniliasis (*Candida albicans*), essential information on these diseases is concisely presented.

657. Schmid (D. O.). **Zur Diagnose der Pneumo -und Bronchopneumomykosen.** [Contribution to the diagnosis of the pneumo- and bronchopneumomycoses.] —*Z. ges. inn. Med.*, 8, 4, pp. 173–181, 1953.

In connexion with the problem of mycoses, especially of the respiratory system, which are liable to develop as a sequel to antibiotic therapy [cf. below, No. 811], the author presents a tabulated differential-diagnostic survey of their microbiology and pathogenesis based on personal experience in Germany and a consultation of 163 contributions to the relevant literature. A simple new procedure for the detection of fungi in sputum samples with a mixed flora or in heavily contaminated material consists in the addition to a blood agar plate of 800 mg. per cent. pyridin-3-carbonic acid-oxymethylamide (Bilamid-Cilag).

658. Raphael (S. S.) & Schwarz (J.). **Occupational hazards from fungi causing deep mycoses.**—*Arch. industr. Hyg.*, 8, 2, pp. 154–165, 1 map, 1954.

Much of the information in the authors' useful review and discussion of 53 contributions to the literature on occupational liability to deep fungal infections has been noticed from time to time in this *Review*. Evidence is presented that infection may be contracted in the laboratory, especially with *Coccidioides immitis* and *Histoplasma capsulatum*, and methods of avoidance

are suggested. Sporotrichosis (*Sporotrichum schencki*) is cited as a numerically and economically important disease of miners, florists, and nurserymen. Epidemics of histoplasmosis are reviewed and 'allergic' diseases caused by normally non-pathogenic fungi are briefly discussed. The endogenous origin of actinomycosis (*Actinomyces bovis*) [*A. israeli*] is re-emphasized and occupational factors are dismissed.

659. Kaden (R.). **Die Agarblock-Methode zum Studium pathogener Pilze.** [The agar block method for the study of pathogenic fungi.]—*Z. Haut- u. Geschlechtskr.*, 16, 6, pp. 170–173, 11 figs., 1954.

The agar block method used for the determination of dermatophytes at the Rudolf Virchow Hospital, Berlin, is based on Riddell's procedure (*Mycologia*, 42, pp. 265–270, 1950) and the author's observations and experience with the slide culture technique at St. John's Hospital, London.

660. Mankowski (Z. T.) & Littleton (B. Jean). **Action of cortisone and ACTH on experimental fungus infections.**—*Antibiot. & Chemother.*, 4, 3, pp. 253–258, 5 figs., 1954.

Treated with cortisone [cf. 1, No. 2429] in amounts exceeding 0·9 mg. per injection at the Lankenau Hospital Research Institute, Philadelphia, Pennsylvania, Swiss mice experimentally infected with *Candida albicans*, *Penicillium* sp., *Aspergillus* sp., *Blastomyces dermatitidis*, and *Cryptococcus neoformans* survived for shorter periods than the untreated controls. In a small-scale test with ACTH, using *A.* sp. as the pathogen, similar results were obtained.

661. Hazen (Elizabeth L.), Little (G. N.), & Resnick (H.). **A study of specimens for evidence of mycotic infection.**—*Rep. N.Y. St. Dep. Hlth., 1952*, pp. 74–76, 1952.

At the New York State Department of Health during 1952 [1, No. 2376], *Trichophyton rubrum* constituted over 94 per cent. of the isolates obtained from chronic dermatophytoses, mostly tinea pedis, *T. mentagrophytes* being found only occasionally. Sputa from patients with undiagnosed pulmonary disease mostly yielded *Candida albicans*. *Blastomyces dermatitidis* was recovered from the sputum of a patient in a sanatorium who had suffered from blastomycosis of the right lung since 1948. *C. mortifera* was found in large numbers in seven specimens of sputum submitted during a period of about one month from a patient with an undiagnosed pulmonary infection which had been treated by massive antibiotic therapy. Four specimens of *Cryptococcus neoformans* were isolated from the spinal fluid, sputum, blood, and urine of a male patient and a fifth from the spinal fluid of another male. *Nocardia asteroides* was obtained from the sputum of a male patient. *Coccidioides immitis* was recovered from material obtained from a draining sinus in the left knee of a young Mexican male. *Actinomyces bovis* [*A. israeli*] was found in pus from a draining lesion in the neck of a male patient, and the same species was isolated in another laboratory from one with cervico-facial actinomycosis.

662. Bieberdorf (F. W.). **A study of the growth response of some fungi to various concentrations of isonicotinic acid hydrazide.**—*Antibiot. & Chemother.*, 3, 5, pp. 513–520, 1 fig., 1953.

For these studies fungi were cultivated in a medium consisting of 1 per cent. peptone, 3 per cent. glucose and salts, adjusted to pH 6·2. The isoniazid was dissolved in the medium to give concentrations of 0, 0·1, 0·2, 0·4, 0·8, 1·0 and 1·5 mgm. per ml. broth. After standing for several days at room temperature the tubes were inoculated and then incubated at 37° C. for four weeks.

The fungi studied were *Nocardia* (3 strains), *Candida* (2), *Cryptococcus* (1), *Geotrichum* (1), *Sporotrichum* (1), *Coccidioides* (1), *Blastomyces* (1), *Histoplasma* (1), *Trichophyton* (3), *Microsporum* (2), *Aspergillus* (2), *Penicillium* (1), *Helminthosporium* (1).

The growth of one strain of *M. canis* and one of *Nocardia* sp. M. was partially inhibited by all concentrations and completely inhibited by 0·8 mgm. per ml. The other two strains of *Nocardia* showed partial inhibition with the higher concentrations only. The growth of one strain of *Coccidioides immitis*, one of *Geotrichum* and one of *Trichophyton mentagrophytes* was also partially inhibited by 0·2–0·4 mgm. per ml. or more. Enhancement of growth was seen with *Cryptococcus neoformans* at concentrations of 0·4–1·0 mgm. per ml. and with *Blastomyces dermatitidis* in all concentrations, especially 0·4–0·8 mgm. per ml. Little or no effect was noted with the other strains tested.

663. Fazakas (A.). **Zusammenfassender Bericht über meine ophthalmologischen Pilzuntersuchungen.** [Comprehensive report on my ophthalmological fungus studies.]—*Ophthalmologica, Basel*, 126, 2, pp. 91–109, 1953. [French and English summaries.]

A tabulated survey is given of the fungi isolated by the author since 1931 at Debrecen, Hungary, from nearly 1,000 healthy and over 2,000 diseased human eyes, the former group yielding 25·5 and the latter 36·4 per cent. positive results. Among the species was *Periconia keratitidis*, cultured for the first time.

664. Fazakas (S.). **Von den an den Schutzorganen des Auges beobachteten Pilzerkrankungen.** [Concerning the fungal infections observed on the protective organs of the eye.]—*Klin. Mbl. Augenheilk.*, 122, 5, pp. 559–565, 1953.

From Debrecen, Hungary, the author reports the isolation from the tear ducts of *Scopulariopsis blochi*, *Trichosporum rugosum* (both apparently new records in ophthalmological literature), *Sporotrichum councilmani*, and species of *Actinomyces* and *Penicillium*. *Acrostalagmus cinnabarinus* [*Verticillium cinnabarinum*], *Sterigmatocystis nigra* [*Aspergillus niger*], and *Acrothecium hominis* were responsible for infection of the eyelids and Meibom's glands. Other species isolated from the eyelids, eyelashes, or Meibom's glands included *Achorion* [*Trichophyton*] *schoenleini*, *T. violaceum*, *T. glabrum*, *T. regulare*, and *Microsporum felineum* [*M. canis*].

665. Götz (H.) & Reichenberger (Margott). **Über eine Pilzkulturen zerstörende Milbe 'Tarsonemus fusarii Cooreman'.** [On a mite, '*Tarsonemus fusarii* Cooreman', destroying fungus cultures.]—*Hautarzt*, 4, 6, pp. 266–268, 2 figs., 1953.

From the University Skin Clinic, Munich, Germany, the authors report the infestation of fungus cultures, including those of *Epidermophyton* [*Trichophyton*] *rubrum*, by the mite *Tarsonemus fusarii*, which causes a brownish discoloration, especially of the periphery, and granulation of the hyphae. The males measure 50 to 100 μ in diameter and the relatively immobile females 60 to 160γ. The dimensions of the eggs, which are laid mostly in batches on the hyphal branches, are 80 by 50 μ. As a prophylactic measure all herbarium cultures should be inspected microscopically from time to time. Infested tubes should be removed immediately, and cabinets, shelves, and containers washed with a 5 per cent. creosote soap solution. Vaporization of a hermetically sealed culture cabinet with formalin for 65 hours prevented further trouble.

666. Beerens (H.). **Étude comparative de six souches de bactéries anaérobies non sporulées : Actinomyces bovis A.T.C.C. 8373 (bovine), A. bovis A.T.C.C. 8374 (humaine), A. israeli var. liquefaciens, Corynebacterium acnes, Corynebacterium avidum, Corynebacterium liquefaciens.** [Comparative study of six strains of anaerobic, non-sporulating bacteria: *Actinomyces bovis* A.T.C.C. 8373 (bovine); *A. bovis* A.T.C.C. 8374 (human), *A. israeli* var. *liquefaciens*, *Corynebacterium acnes*, *Corynebacterium avidum*, *Corynebacterium liquefaciens*.]—*Ann. Inst. Pasteur*, 84, 6, pp. 1026–1032, 1 pl., 1953.

From a comparative study at the Institut Pasteur, Lille, France, of the physiology, morphology, biochemistry, metabolism, pathogenicity, and serology of the six organisms enumerated in the title, the author concludes that all are representatives of one and the same species, which has been assigned to three different genera, viz., *Actinobacterium* (or *Actinomyces*), *Corynebacterium*, and *Propionibacterium*, and requires reclassification in the light of the observations here presented.

667. De Urioste (R.) & Medarde (I.). **Dos casos de nocardiosis pulmonar.** [Two cases of pulmonary nocardiosis.]—*Rev. clín. esp.*, 49, 3, pp. 173–175, 1953. [English, German, and French summaries.]

Two types of *Nocardia* which do not appear to belong to any known species of the genus are described from the Institute of Biology, Serum Therapy, and Antibiotics, Madrid, where they were isolated from two farmers suffering from pulmonary disorders simulating tuberculosis. Both patients subsequently developed subcutaneous abscesses at various sites and succumbed to the disease three to four months after admission. One of the isolates was sensitive to aureomycin in therapeutical concentrations.

668. Glaesmer-Zaff (M.). **Ein Schulfall einer Ovarialaktinomykose.** [A classical case of an ovarian actinomycosis.]—*Zbl. Gynäk.*, 74, 49, pp. 1927–1932, 1952.

From the St. Hedwig Clinic, Mannheim, Germany, the author fully describes a case of ovarial actinomycosis (*Actinomyces israeli*) in a 16-year-old girl and discusses it in relation to the difficulties of establishing a diagnosis.

669. González Ochoa (A.). **El micetoma tóracopulmonar por Actinomyces bovis y Nocardia brasiliensis ; consideraciones etiopatogénicas, clínicas y terapéuticas.** [Thoraco-pulmonary mycetoma caused by *Actinomyces bovis* and *Nocardia brasiliensis*; etiopathogenic, clinical, and therapeutic considerations.]—*Gac. méd. Méx.*, 83, 2, pp. 109–115, 4 figs., 1953. [English summary.]

Since no differences have been observed in the author's experience in Mexico between *Actinomyces bovis* [*A. israeli*] and *Nocardia brasiliensis* [see next entries], either as regards their clinical, radiological, and histopathological manifestations or in the morphology of the characteristic granules, he proposes grouping the two associated thoraco-pulmonary diseases in one syndrome.

Two methods of etiological diagnosis are, however, available, one based on the different sources of infection, endogenous in *A. israeli* and exogenous in *N. brasiliensis*, and the other on the acid-fastness of the granule in the latter species and absence of this property in the former.

In conclusion, penicillin is recommended for the therapy of infection by *A. israeli*, while diamino-diphenyl-sulphone is preferable for the treatment of nocardiosis.

670. Martínez Báez (M.). **Comentario al trabajo del Doctor Antonio González Ochoa.** [Commentary on the article of Dr. Antonio González Ochoa.]—*Gac. méd. Méx.*, 83, 2, pp. 117–118, 1953.

This is a concise résumé of the paper summarized in the preceding entry, emphasizing its value in the simplification of an important problem in Mexico, where the mycetomata caused by *Actinomyces israeli* and *Nocardia brasiliensis* are not only serious but more frequent than is generally believed.

671. González Ochoa (A.) & Vásquez Hoyos (A.). **Relaciones serológicas de los principales actinomycetes patógenos.** [Serological relationships of the principal pathogenic actinomycetes.]—*Rev. Inst. Salubr. Enferm. trop., Méx.*, 13, 3, pp. 177–187, 1953. [English summary.]

As the result of precipitin tests showing the serological relation of 18 of the principal pathogenic actinomycetes and *Streptomyces* spp. the authors propose the following four groups: the *bovis* group comprising *Actinomyces bovis*, *Nocardia asteroides*, and *N. brasiliensis* [see next entry] as valid species with *A. gypsoides*, *N. carnea*, and *N. leishmani* as synonyms of *N. asteroides*, and *N. mexicana* [1, No. 659; 2, No. 669] as a synonym of *N. brasiliensis*; the *somaliensis* group containing only *N. somaliensis* which fragments and is non acid-fast; the *madurae* containing *N. madurae* and *N. pelletieri*, *N. africana* being synonymous with the latter; and the *paraguayensis* with *N. paraguayensis* as the type. The species contained in the last two groups are not related serologically to those of the *bovis* group and cannot be included in the genus *Nocardia*. *N. paraguayensis* is related serologically to *Streptomyces albus*, *S. lavendulae*, and *S. griseus*.

672. González Ochoa (A.) & Baranda (F.). **Una prueba cutánea para el diagnóstico del micetoma actinomicósico por Nocardia brasiliensis.** [A cutaneous test for diagnosing actinomycotic mycetoma caused by *Nocardia brasiliensis*.] —*Rev. Inst. Salubr. Enferm. trop., Méx.*, 13, 3, pp. 189–197, 1953. [English summary.]

At the Institute of Hygiene and Tropical Diseases, Mexico City, an antigenic substance, a carbohydrate labelled L-2, from *Nocardia brasiliensis* [see preceding entry] applied intradermally gave a positive reaction in 16 patients with actinomycotic mycetoma caused by the above-mentioned organism [1, No. 256]. The specificity of the test was illustrated by the negative reaction of two cases of *Actinomyces bovis* [*A.* (?) *israeli*], eight of other deep mycoses, nine of dermatophytosis, 11 of non-mycotic diseases, and ten normal subjects.

673. Hanf (Ursula), Heinrich (S.), & Legler (F.). **Zur Frage der Antibiotica-Resistenz des Erregers der Aktinomycose.** [On the question of the resistance to antibiotics of the agent of actinomycosis.]—*Med. Klinik.*, 49, 7, pp. 250–251, 1954.

From the Hygienic Institute of Cologne University and the Bacteriological Research Institute, Erlangen, the results of *in vitro* tests are reported which show that the resistance of a series of nine strains of *Actinomyces israeli* to five antibiotics in common use in Germany is much lower than was hitherto supposed. Thus, growth was totally inhibited by penicillin at a concentration of 0·025 to 0·1 international units per ml. and by streptomycin, aureomycin, chloromycetin, and terramycin at 2·5 to 10, 1 to 2·5, 1 to 5, and 0·25 to 1 mg. per ml., respectively.

674. Lawonn (H.). **Kasuistischer Beitrag zur Penicillinbehandlung der Thoraxaktinomykose.** [Clinical contribution to the penicillin therapy of thoracic actinomycosis.].—*Z. ges. inn. Med.*, 8, 3, pp. 120–124, 7 figs., 1953.

From Bautzen, Germany, the author reports a case of thoracic actinomycosis (*Actinomyces* Wolff–Israel) [*A. israeli*] in a 36-year-old mining engineer which was successfully treated with penicillin (52·9 mega units) and elkosin (150 gm.).

675. Kugel (E.), Harlacher (A.), & Hueck (O.). **Bemerkungen zur Differentialdiagnose und Therapie der Lungenaktinomykose.** [Differential diagnosis and therapy of pulmonary actinomycosis.]—*Thoraxchirurgie*, 1, 3, pp. 206–214, 10 figs., 1953.

During the past four years five patients suffering from primary pulmonary actinomycosis (*Actinomyces israeli*) were successfully treated at the Surgical Clinic of the University of Munich, Germany, three by lung resections, one by minor operative procedures, and one by purely conservative methods. The difficulties of differential diagnosis are discussed and the various theories of the mode of infection briefly considered.

676. Le Brun (H.) & Gilmour (I. E.). **Hypokalaomia and renal actinomycosis following ureterocaecostomy : report of a case.**—*Brit. J. Urol.*, 25, 2, pp. 132–135, 3 figs., 1953.

After undergoing ureterocaecostomy a 55-year-old female patient at the Ashford Hospital, Middlesex, became comatose and died. At autopsy the right kidney was found to be enlarged and contained a colony of '*S. actinomyces*' [?*Actinomyces israeli*], while a retroperitoneal abscess might well have provided a route for the invasion of the kidney from the caecum. Actinomycosis did not appear to be the cause of death.

677. Muller (B.), Raoul-Duval (P.), Rayle (J.), Bouvet (R.), & Naudin (G.). **Un cas de méningite à 'Actinomyces israeli'. Guérison par traitement antibiotique.** [A case of meningitis due to *Actinomyces israeli*. Cure by antibiotic treatment.]—*Bull. Soc. Méd. Paris*, Sér. 4, 70, 9–10, pp. 277–284, 1954.

A detailed account is given of the clinical course of a case of meningitis caused by *Actinomyces israeli* in a 22-year-old male patient at a Paris hospital. A complete cure was effected by a prolonged course (2½ months) of antibiotic therapy, mainly with chloromycetin.

678. Maconi (G.). **Su di un caso di actinomicosi del collo trattato con aureomicina.** [A case of actinomycosis of the neck treated with aureomycin.]—*Rass. int. Clin. Terap.*, 33, 9, pp. 279–284, 2 figs., 1953.

After reviewing the various methods employed in the therapy of actinomycosis [*Actinomyces israeli*], the author reports the cure of a case involving the neck in a 39-year-old farmer at the Surgical Clinic of the University of Pavia, Italy, by the internal administration of aureomycin [1, No. 2075] at a dosage of 250 mg. every six hours for 16 days combined with its topical application as an ointment.

679. Mariat (F.). **Physiologie des actinomycètes aérobies pathogènes. I.—Expériences préliminaires.** [The physiology of the pathogenic aerobic actinomycetes. I. Preliminary experiments.]—*Ann. Inst. Pasteur*, 86, 4, pp. 479–484, 1954.

Some of the pathogenic aerobic actinomycetes included in these studies thrive equally well in the presence of mineral or organic nitrogen, e.g., strains

of *Nocardia asteroides*, *N. leishmanii*, and *N. madurae*, while others prefer or utilize exclusively asparagine or casein hydrolysate (*Streptomyces somaliensis*, *S. pelletieri*, *N. lutea*, *N. farcinica*, *N. rubra*, and *S. albus*); the latter source is indispensable to *N. tenuis*. *N. rubra* and *N. lutea* require thiamin for their development. In general, glucose is better assimilated than maltose. Asparagine is unable to serve as the sole source of nitrogen and carbon, whereas casein hydrolysate can do so for many strains.

Strain 21 of *N. madurae* secretes a brown pigment which diffuses into the medium and exerts a remarkable antibiotic action on *Candida albicans*, *C. krusei*, *C. tropicalis*, *Trichosporon rotundatum*, and *Cryptococcus neoformans*.

680. Nowski (S.). **Über einen Fall von geheilter Lungenaktinomycose.** [A case of cured pulmonary actinomycosis.]—*Ther. d. Gegenw.*, 92, 4, pp. 146–147, 1953.

A case of pulmonary actinomycosis (*Actinomyces* Wolff–Israel) [*A. israeli*], extending to the pleura and chest wall, in a 64-year-old male patient (engaged in agriculture since 1949) at the Oskar Ziethen Hospital, Berlin–Lichtenberg, was cured by the combined administration of penicillin (total of 25,000,000 Oxford units) and supronal (52 gm.).

681. Prunés (L.), Weinstein (M.), & Hevia (H.). **O lugol gôta á gôta em um caso de actinomicose.** [Continuous drip therapy with lugol in a case of actinomycosis.]—*An. bras. Derm. Sif.*, 28, 1, pp. 1–5, 3 figs., 1953.

A complete cure of a case of cervico-facial actinomycosis (*Actinomyces israeli*) in a 54-year-old male patient at the University Skin Clinic, Santiago, Chile, was effected by continuous drip therapy with 2 per cent. lugol on four alternate days, using 10 ml. in 90 ml. twice-distilled water on the first, 20 in 80 on the third, and 40 in 60 on the fifth and seventh.

682. Rodt (E.). **Über einen Fall geheilter Lungenaktinomykose.** [On a case of cured pulmonary actinomycosis.]—*Fortschr. Röntgenstr.*, 78, 3, pp. 362–363, 3 figs., 1953.

From the regional hospital at Schkeuditz, near Leipzig, Germany, a case of pulmonary actinomycosis (*Actinomyces* [*israeli*]) in a 55-year-old poultry-breeder is very briefly reported. An apparently complete cure was effected by two courses of penicillin, totalling 17,000,000 units in the first and 3,000,000 in the second, and X-ray therapy. The first course of penicillin was supplemented by small doses of supronal (total of 30 gm.).

683. Rothfield (N. J.) for Mann (T. P.). **Actinomycosis of the chest wall.**—*Proc. R. Soc. Med.*, 47, 2, pp. 127–128, 1 fig., 1954.

At the Royal Alexandra Children's Hospital, Brighton, *Actinomyces bovis* [*A. israeli*] was isolated from a tumour on the back of the chest wall (left side) of a nine-year-old boy. A three-months' course of streptomycin resulted in a clinical improvement, but the detection of sulphur granules in two small fluctuant areas in the line of the biopsy incision led to its continued administration, together with potassium iodide, which was still in progress at the time of writing.

684. Wichelhausen (Ruth), Robinson (Lucille B.), Mazzara (J. R.), & Everding (C. J.). **Nocardiosis. Report of a fatal case.**—*Amer. J. Med.*, 16, 2, pp. 295–303, 2 figs., 1 graph, 1954.

This is a detailed, tabulated report from the Veterans Administration Hospital, Washington, D.C., of a case of nocardiosis (*Nocardia asteroides*) in a 35-year-old patient who succumbed to multiple abscesses in the subcutaneous

tissues, brain, pleura, and lungs. The diagnosis was established only a week before death, 1¼ years after the onset of infection.

The clinical aspects of the disease are discussed and 31 contributions to the relevant literature reviewed, with special reference to diagnostic procedures and the interpretation of laboratory data.

685. Wolff (L.) & Teusch (W.). **Das Aktinomykoseproblem.** [The problem of actinomycosis.]—*Münch. med. Wschr.*, 94, 33–34, pp. 1654–1657, 1952.

This discussion of the problem of actinomycosis (*Actinomyces israeli*) under its etiological, clinical, diagnostic, and therapeutic aspects is based on an epidemic of 28 cases observed in various districts of the Saarland, Germany, in the spring of 1951.

686. Saurat (P.) & Lautié (R.). **Sur un cas d'actinomycose cérébrale du Chien.** [On a case of cerebral actinomycosis of the Dog.]—*Rev. méd. vét.*, 104, N.S., 16, pp. 264–274, 1 pl., 1953.

From a case of purulent encephalitis in an 11-month-old dog the authors isolated at the Veterinary School, Toulouse, a species of *Streptomyces* resembling *S. galtieri* in its morphological and most of its cultural characters, but not producing a soluble brown pigment in the medium, not liquefying gelatine, being partially acid-resistant, and possessing greater ability to reduce nitrates to nitrites and a somewhat different and more extensive pathogenicity. In other respects it resembled *Streptothrix* [*Actinomyces*] *carneus*, though differing in the absence of pigmentation and possession of clear-cut pathogenicity. Organisms apparently exist which are intermediate between the Actinomycetaceae and the Streptomycetaceae; the authors' fungus seems to form a link between *Nocardia* and *Streptomyces*. It is concluded that canine actinomycosis is a disease with various clinical aspects, associated with a number of pathogens more or less close to the well-known causal organisms and possibly varieties of them.

687. Squadrini (F.) & Berengo (A.). **Tireopatia sperimentale da inoculazione intratiroidea di Actinomyces bovis nel Ratto normale.** [Experimental thyroiditis from intrathyroid inoculation of *Actinomyces bovis* in the normal Rat.]—*Riv. Ist. sieroter. ital.*, 27, 6, pp. 485–488, 1 fig., 1952. [French and English summaries.]

White rats inoculated with *Actinomyces bovis* by the intrathyroid route at the General Medical Clinic of the University of Modena developed a purulent thyroiditis.

688. Tucker (R.) & Millar (R.). **Outbreak of nocardiosis in Marsupials in the Brisbane Botanical Gardens.**—*J. comp. Path.*, 63, 2, pp. 143–146, 1953.

An epizootic of nocardiosis amongst marsupials in captivity is reported from the University of Queensland, Brisbane, four out of eight fatal cases being described. Three were characterized by hard swellings on the face with superficial lesions of the nose, eyes, and gums, which yielded a species of *Nocardia*. In the fourth a primary lesion in the submandibular lymphatic glands was followed by a secondary swelling of the connective tissues but was not diagnosed bacteriologically as nocardiosis. All the animals died soon after detection of the lesions. *In vitro* the organism proved sensitive to penicillin at a concentration of 0·25 mg. per ml. and a case treated with 200,000 units daily responded after ten days but later relapsed.

689. Grégoire (P. E.), Linz (R.), & Van Damme (O.). **Apparitions successives d'un Penicillium et d'un Aspergillus dans un liquide pleural.** [Successive appearances of a *Penicillium* and an *Aspergillus* in a pleural fluid.]—*Acta clin. belg.*, 8, 4, pp. 483–485, 1953.

Three months after admission to a Belgian hospital, *Penicillium spinulosum* was isolated from the pleural fluid of a male patient who had been suffering for two years from an encysted empyema. This is believed to be the first record of the species in the human system. About a month later *Aspergillus fumigatus* developed and rapidly overran the *Penicillium*. The organism did not appear to be pathogenic, death having supervened as a result of myocardiac infarction.

690. Nicod (J.-L.), Fleury (C.), & Schlegel (J.). **Mycose pulmonaire double à Aspergillus fumigatus Fres. et à Mucor pusillus Lindt.** [Double pulmonary mycosis due to *Aspergillus fumigatus* Fres. and to *Mucor pusillus* Lindt.]—*Schweiz. Z. Path.*, 15, 3, pp. 307–321, 5 figs., 1952. [German and English summaries.]

This is a full report from the Institute of Pathological Anatomy, University of Lausanne, of the autopsy on an 86-year-old male who succumbed to simultaneous infection by *Aspergillus fumigatus* and *Mucor pusillus*, both of which were pathogenic in inoculation experiments on rabbits and guinea-pigs.

691. Zettergren (L.) & Sjöström (B.). **Disseminated mycosis after treatment with antibiotics. Report of two cases reaching autopsy.**—*Acta med. scand.*, 147, 3, pp. 203–212, 6 figs., 1 graph, 1953.

From the Pathological Institute, Uppsala, Sweden, the autopsy findings are described in two cases of disseminated mycosis (*Aspergillus* sp.) following antibiotic therapy. The first patient, a 49-year-old housewife, was given a daily dose of 300,000 international units of penicillin for three weeks, while the second, a 46-year-old joiner, received a total of 84 gm. aureomycin. The fungus is believed to have developed as a direct consequence of the antibiotic therapy, though the panmyelophthisis present in both cases may have been a contributory factor.

692. Hiddlestone (H. J. H.), Rosser (T. H. L.), & Seal (R. M. E.). **Pulmonary aspergillosis.**—*Tubercle*, 35, 1, pp. 15–18, 3 figs., 1953.

Three cases of pulmonary aspergillosis (*Aspergillus fumigatus*), each presenting unusual features, are reported from Sully Hospital, United States. In the first patient, a 31-year-old carpenter, the infection developed as a post-operative complication of tuberculosis. In the second, a 28-year-old rubber worker, the mycosis followed prolonged and uncontrolled antibiotic therapy for an acute lung abscess. Primary pulmonary aspergillosis, closely simulating tuberculosis, was the diagnosis in the third case, a 30-year-old paper works machinist. All the patients recovered as a result of surgical intervention.

693. Huber (K.). **Lungenaspergillose; ein kasuistischer Beitrag.** [Pulmonary aspergillosis; a case report.]—*Praxis*, 42, 13, pp. 245–247, 2 figs., 1953.

An unidentified species of *Aspergillus* was not discovered until autopsy to be responsible for two years' chronic pneumonia in a 76-year-old male patient at the Cantonal Hospital, Chur, Switzerland.

694. Kaplan (M. A.), Hooper (I. R.), & Heinemann (B.). **Antibiotic-producing properties of Aspergillus terreus.**—*Antibiot. & Chemother.*, 4, 7, pp. 746–749, 1954.

Terreic acid, a crystalline antibiotic produced by a strain of *Aspergillus*

terreus, was tested at the Bristol Laboratories Inc., Syracuse, New York, against a number of micro-organisms, including *Candida albicans*, *Trichophyton mentagrophytes*, *Epidermophyton floccosum*, *Microsporum audouini*, and *Sporotrichum schencki*, the minimum inhibitory concentrations (in μgm. per ml.) for which were 400, 250, 62, 62, and 1,000, respectively.

695. Moore (E. N.). **Aspergillus fumigatus as a cause of ophthalmitis in Turkeys.** —*Poult. Sci.*, 32, 5, pp. 796–799, 1953.

Aspergillus fumigatus was found to be the agent of ophthalmia in five flocks of young turkey poults in Ohio [2, No. 249]. The symptoms and pathology of aspergillosis are described and the available evidence for its predominance in males is briefly discussed.

696. Clark (D. S.), Jones (E. E.), Crowl (W. B.), & Ross (F. K.). **Aspergillosis in newly hatched Chicks.**—*J. Amer. vet. med. Ass.*, 124, 923, pp. 116–117, 1954.

An outbreak of aspergillosis (*Aspergillus fumigatus*), apparently of hatchery origin and involving 26 broods of chicks, some only one day old, is reported from Sacramento, California. In eight of the broods the only lesions present were white plugs in the bronchi, typical of infectious bronchitis. The lung and air sac nodules typical of aspergillosis were usually observed only in birds upwards of five days old. Complete dismantling and drastic disinfection of the incubators were necessary to eradicate the pathogen.

697. Kessler (A.). **Survey of airborne pollen and mold spores in Israel, 1953.**—*Ann. Allergy*, 12, 3, pp. 261–262, 3 graphs, 1954.

In 1953 the curves for air-borne *Alternaria*, *Macrosporium*, and *Helminthosporium* spores in the centre of Tel Aviv–Jaffa, Israel, were remarkably similar to those of the two preceding years [2, No. 477], with a sharp rise in May and a lesser one in the autumn. The total numbers were identical with those recorded in 1952. *Hormodendrum* sp. was represented on the slides in nearly every month, especially May, July, and August, while *Fusarium* sp. occurred sporadically. Smuts were also trapped throughout the year, while rusts appeared in most months, with peaks in April and November.

698. Mendes (E.) & Lacaz (C. da S.). **Fungos anemófilos da Cidade de São Paulo.** [Anemophilous fungi in the city of São Paulo.]—*An. paulist. Med. Cir.*, 64, 6, p. 457, 1952.

The following fungi were trapped on Petri dishes containing Sabouraud's agar exposed fortnightly for 15 minutes to the air in the city of São Paulo, Brazil: species of *Hormodendrum* (23·6 per cent.), *Penicillium* (17·2), *Rhodotorula* (6·4), *Aspergillus* (4·5), *Monilia sitophila* (3·6), *Hormiscium* and *Fusarium* (each 1·8), *Cephalosporium* and *Rhizopus* (each 0·9), and unidentified (21·1). Intradermal tests on 72 persons suffering from asthma or allergic rhinitis gave positive results in 42 (58·3 per cent.) distributed as follows: *Rhizopus* 41·7 per cent., *M. sitophila* 27·7, *Penicillium* and *Hormodendrum* each 22·2, and *Aspergillus* 11·1.

699. Prince (H. E.) & Morrow (Marie B.). **Mold fungi in the etiology of respiratory allergic diseases. XV. Selection of molds for therapy.**—*Ann. Allergy*, 12, 3, pp. 253–260, 1954.

Sufficient survey data are now available to permit an adequate selection, on the basis of geographical and seasonal incidence, of diagnostic and therapeutic mould antigens for most sections of the continental United States [cf. 1, No. 1844]. Botanical classification should provide the foundation for an

evaluation of mould reactions, and treatment should be given with appropriately combined mixtures representing botanical groups.

700. Buechner (H. A.), Anderson (A. E.), Strug (L. H.), Seabury (J. H.), & Peabody (J. W.). **Pulmonary resection in the treatment of blastomycosis.**—*J. thorac. Surg.*, 25, 5, pp. 468–479, 6 figs., 1953.

Two cases of blastomycosis (*Blastomyces dermatitidis*) were treated by pulmonary resection [see next entry] at the Veterans Administration Hospital, New Orleans. A 56-year-old male patient with a sharply circumscribed lesion in one lung made a complete recovery without the use of any other therapy. Typical cells of the yeast form of *B. dermatitidis* were seen in vast numbers in the resected tissue but could not be cultured. In a 49-year-old man with rather more dispersed and progressive lung lesions, relapse occurred soon after the operation, when iodide and vaccine therapy were instituted with beneficial results. The fungus was isolated from resected tissue in this case. It appears that a combination of drug therapy and resection may be the most suitable treatment for pulmonary blastomycosis.

701. Weisel (W.) & Landis (F. B.). **Endobronchial lesions in pulmonary blastomycosis.**—*J. thorac. Surg.*, 25, 6, pp. 570–581, 13 figs., 1953.

Seven cases of pulmonary blastomycosis (*Blastomyces dermatitidis*) in adult males are reported from Columbia Hospital, St. Joseph's Hospital, and the Veterans Administration Hospital, Milwaukee, Wisconsin. They presented similar endobronchial lesions during the acute stage of the disease, showing superficial mucosal ulceration and a rather characteristic retained secretion in the bronchial segments. Bronchoscopy proved helpful in the diagnosis of these lesions and in obtaining material for mycological study. Pulmonary resection [see preceding entry] may be effective in the eradication of localized pulmonary lesions, but as these are usually only one manifestation of a systemic disease, iodide therapy, to which the foregoing cases responded well, at any rate temporarily, should also be used.

702. **Diamidine therapy in blastomycosis.**—*J. Amer. med. Ass.*, 154, 7, p. 588, 1954.

This article deals principally with the systemic form of North American blastomycosis (*Blastomyces dermatitidis*), the cutaneous form yielding readily to established methods of therapy. The diamidine derivatives propamidine and stilbamidine have been used extensively with promising results, but their immediate and remote toxic effects may be serious. The most recent drug of this group to be tried, 2-hydroxystilbamidine, is reported to be less toxic and more stable in solution, and the few cases so far treated with it have responded favourably.

703. West (Margaret K.) & Verwey (W. F.). **Effect of stilbamidine on experimental Blastomyces dermatitidis infections in Mice.**—*J. invest. Derm.*, 22, 6, 363–365, 1954.

At the Department of Bacteriology, Merck & Co., West Point, Pennsylvania, female albino mice were inoculated intraperitoneally with a yeast phase suspension of *Blastomyces dermatitidis* in mucin and treated daily for 11 days with stilbamidine [2, No. 50] through the same route. The TD_{50} was 0·839 mg. and the PD_{50} 0·06 mg. per dose. On the basis of these data, further study of the drug as a potential agent for the therapy of human blastomycosis would appear to be justified.

704. Solotorovsky (M.), Ironson (E. J.), Gregory (F. J.), & Winsten (S.). **Activity of certain diamidines against blastomycosis and Candida infection in Mice.**—*Antibiot. & Chemother.*, 4, 2, pp. 165–168, 1954.

In *in vitro* tests at the Merck Institute for Therapeutic Research, Rahway, New Jersey, stilbamidine, hydroxystilbamidine, and propamidine were highly toxic to *Blastomyces dermatitidis* and moderately so to *Cryptococcus neoformans*. Stilbamidine and hydroxystilbamidine were also moderately active against *Candida albicans*. The growth of *Trichophyton mentagrophytes*, *Epidermophyton floccosum*, and *Microsporum canis* was inhibited to some extent by hydroxystilbamidine, while the development of *E. floccosum* was arrested by stilbamidine and that of *M. canis* by propamidine.

Of the five diamidines, only stilbamidine and hydroxystilbamidine gave any evidence of toxicity to *B. dermatitidis* in *in vitro* trials on white mice, the latter being about one-half to one-third as active as the former. Experimental infection by *C. albicans* was not controlled by either of the compounds.

705. Howles (J. K.) & Black (C. I.). **Cutaneous blastomycosis ; a report of fifty-eight unpublished cases.**—*J. Louisiana med. Soc.*, 105, 2, pp. 72–78, 1 map, 1953.

The authors present a brief survey of the literature (35 titles) on North American blastomycosis (*Blastomyces dermatitidis*) and a summary of 58 previously unpublished cases covering the period from 1930 to 1949 at the Charity Hospital, New Orleans. The ages of the patients (of whom only 11 were women) ranged from nine to 75 years. In nine the lesions were both cutaneous and systemic, the latter being regarded as secondary. Nearly one-third of the patients (16) were employed in lumber or related industries. It is suggested that the hot, humid climate of the Gulf Coast and the topography of the region may have a definite bearing on the incidence of the disease. The combined use of iodides and superficial X-radiation appears to be the most promising method of therapy.

706. Lavier (G.). **Observations sur les Blastocystis.** [Observations on *Blastocystis*.] —*Ann. Parasitol. hum. comp.*, 27, 1–3, 9 figs., pp. 339–356, 1952.

When species of *Blastocystis* were grown in culture on Bolck's ovo-mucoid medium (sterile egg white beaten up in 1 l. Ringer's liquid) racquet-shaped filamentous shoots appeared and nucleate swellings formed which separated off and developed independently. On suitable media species from numerous sources sporulated. No endospores were formed, but exosporulation occurred, peripheral spores being produced which rapidly assumed a normal appearance. This highly typical method of sporulation indicates that *Blastocystis* is near *Paracoccidioides* and *Boudierella*; the genus can, therefore, be referred to the Phycomycetes or, more precisely, to the Entomophthorales or a nearly related group.

707. Levitas (J. R.) & Baum (G. L.). **Surgical aspects of blastomycosis.**—*Surgery*, 33, 1, pp. 93–101, 5 figs., 1953.

After a review of the literature on the treatment of blastomycotic skin lesions caused by *Blastomyces dermatitidis*, nine cases of the disease in adult male patients are described from the Jewish Hospital, Cincinnati, Ohio. The surgical removal of single or isolated active peripheral lesions is indicated, since they may cause severe disfigurement and also constitute an epidemiological risk if allowed to remain. Skin lesions are usually secondary to a pulmonary focus which must not be overlooked. In a case of blastomycotic prostatitis the 54-year-old patient eventually succumbed to disseminated infection.

708. Martin (D. S.). **Serologic studies on North American blastomycosis. Studies with soluble antigens from untreated and sonic-treated yeast-phase cells of Blastomyces dermatitidis.**—*J. Immunol.*, 71, 4, pp. 192–201, 1 graph, 1953.

At the Duke University School of Medicine, Durham, North Carolina, a soluble antigen, obtained by sonic vibration of washed yeast-phase cells of *Blastomyces dermatitidis*, was used to test for complement-fixing antibodies in 165 sera [1, No. 1621], including 68 samples from patients with proved blastomycosis and 15 from persons with clinical or suspected diagnoses of other fungal infections. Although the antigen failed to evoke positive reactions in 20 cases (29 per cent.) of proved blastomycosis, it is considered to be equally satisfactory with the yeast-phase antigens previously used and possesses the advantages of solubility and ease of storage.

The soluble materials from sonic-treated, washed yeast-phase cells of *Histoplasma capsulatum* also gave positive results in complement-fixation tests with sera from proved cases of blastomycosis.

The supernatant fluid from the protein-free saline suspensions of untreated yeast-phase cells contained an antigen that fixed guinea-pig complement with sera from immunized rabbits but not from patients with blastomycosis. Both the fluid and a polysaccharide precipitated from it were capable of sensitizing sheep's cells, rendering them agglutinable by sera from blastomycotic cases.

No correlation was demonstrated between the titres obtained by the haemagglutination technique and those elicited by complement fixation tests in sera of patients with blastomycosis, but there was a definite relationship between the titres resulting from both methods and the prognoses of the cases.

The data secured in immunization tests on 24 mice suggested that the injection of small amounts of carbohydrate material, precipitated from the saline extract of the untreated cells, stimulates the development of a limited degree of resistance to heavy 'challenge' doses of *B. dermatitidis*.

The results of skin tests on guinea-pigs inoculated with extracts of untreated and treated cells of *B. dermatitidis* and *H. capsulatum* indicated that the former substances induced more specific reactions than the latter.

709. Pond (N. E.) & Humphreys (R. J.). **Blastomycosis with cardiac involvement and peripheral embolization.**—*Amer. Heart J.*, 43, 4, pp. 615–620, 1952.

A case is presented of a 33-year-old male negro received at the University of Texas Hospitals in March, 1951, who succumbed to blastomycosis, attributed to *Blastomyces dermatitidis*, involving the left side of the heart and producing peripheral embolic phenomena. At necropsy hyphae and single-budding spores were observed in blood thrombi and the pathogenesis of the case is discussed. Brief mention is made of the role of other fungi in producing cardiac lesions and the possible harmful effects of antibiotics on such conditions.

710. Mukherjee (B. B.). **North American blastomycosis.**—*J. Indian med. Ass.*, 23, 1, pp. 22–24, 7 figs., 1953.

A fatal case of cutaneous and systemic blastomycosis (*Blastomyces dermatitidis*) in a 25-year-old coal-cutter is reported from the Sanctoria Hospital, Disergarh, West Bengal.

711. Vermeil (C.), Gordeeff (A.), & Haddad (N.). **Sur un cas tunisien de mycose généralisée mortelle.** [On a fatal Tunisian case of generalized mycosis.]—*Ann. Inst. Pasteur*, 86, 5, pp. 636–646, 3 figs., 1954.

Further observations are presented on the clinical aspects of the fatal case of generalized mycosis in a 25-year-old female already reported from Tunis

[1, No. 2407], on the morphology of the associated fungus (*Blastomyces dermatitidis*), and on the inoculation experiments performed on two rodents of local provenance, *Meriones shawi* and *Gerbillus hirtipes*.

712. Theodorides (E.) & Koutrolikos (D.). **Blastomycosis of the conjunctiva. Report of two additional cases.**—*Amer. J. Ophthal.*, 36, 7, (1), pp. 978–980, 6 figs., 1953.

Two further cases of conjunctival blastomycosis are briefly reported from Ioannina, Greece [1, No. 1618]. Cultural studies gave negative results, but the appearance of the fungus [? *Blastomyces* sp.] is depicted from smears.

713. Trejos (A.) & Romero (A.). **Contribución al estudio de las blastomicosis en Costa Rica.** [Contribution to the study of the blastomycoses in Costa Rica.]—*Rev. Biol. trop.*, 1, 1, pp. 63–81, 6 pl., 1953. [French, English, and German summaries.]

Following a brief survey of previous reports of blastomycosis in Costa Rica, the author describes the third case of Lutz's disease [1, No. 1874] in a 61-year-old farm-worker who succumbed to the multiplicity and polymorphism of the lesions despite the administration of sulphamides and streptomycin. The possibility of endosporulation in *Paracoccidioides brasiliensis*, isolated from the cutaneous tissue and the gums, is discussed.

A case of Lobo's disease (*Glenosporella loboi*) [1, Nos. 894, 911] was studied in a 60-year-old farm-worker, the first record for Costa Rica or anywhere else outside the Amazon region. Infection spread through the superficial lymphatic vessels and ultimately through the deeper ones to the ganglions of the crural region.

714. Mackinnon (J. E.), Artagaveytia-Allende (R. C.), & Arroyo (L.). **Sobre la especifidad de la intradermorreacción con paracoccidioidina.** [On the specificity of the skin test with paracoccidioidin.]—*An. Fac. Med. Montevideo*, 38, 9–10, pp. 363–382, 1953. [English summary.]

The information accumulated to date on the specificity of the skin test with paracoccidioidin for the diagnosis of South American blastomycosis (*Paracoccidioides brasiliensis*) is summarized and discussed in the light of 19 contributions to the literature on the subject.

715. De Carvalho (A.). **Sôbre o emprego da paracoccidioidina na cidade do Rio de Janeiro. (Primeiros resultados baseados no estudo de 475 individuos.)** [On the employment of paracoccidioidin in the city of Rio de Janeiro. (Preliminary results based on the study of 475 individuals.)]—*Rev. bras. Tuberc.*, 21, 145, pp. 73–82, 1953.

Of 475 persons tested with paracoccidioidin in Rio de Janeiro, Brazil, 20 (4·2 per cent.) reacted positively to the 1 in 10 dilution and eight (1·7) to the 1 in 100. Six of the subjects were suffering from South American blastomycosis [*Paracoccidioides brasiliensis*], but only two of them gave a positive response to the antigen.

716. Lacaz (C. da S.). **South American blastomycosis—a review.**—*Mycopathologia*, 6, 4, pp. 241–259, 1953.

The author, after briefly reviewing the history of early researches on South American blastomycosis (*Paracoccidioides brasiliensis*) [2, No. 279], presents statistical data on the incidence of the disease, mainly in São Paulo, Brazil, and discusses the available information under the headings: anatomo-clinical forms, ways by which the fungus enters the human body, diagnosis, general

rules of treatment, and methods of examination upon which cure depends. A bibliography of 132 titles is appended.

717. Potenza (L.), Lares Campos (C.), & Feo (M.). **Paracoccidioidosis infantil en Venezuela. Aspecto del parasito a la luz polarizada.**—[Infantile paracoccidioidosis in Venezuela. Appearance of the parasite in polarized light.]—*Arch. venez. Puer. Pediat.*, 16, 47, pp. 7–17, 11 figs., 1953. [English and German summaries.]

South American blastomycosis (*Paracoccidioides brasiliensis*) is stated to be relatively rare in children. From the Hospital J. M. de los Ríos, Carácas, the authors describe a case involving the cervical, axillary, and inguinal lymph nodes and simulating Hodgkin's disease in a nine-year-old girl. A marked improvement followed a 2½-month course of sodium sulphadiazine therapy, but death ensued 10 months after leaving the hospital.

Under polarized light material from the lesions consisted of brilliant foci, 1 to 10 μ in diameter, with four luminous peripheral zones and a dark central portion, or sometimes of circular or semicircular points surrounding dark areas. The application of gypsum compensators (red I) brings out complementary colours, yellowish-orange and blue in the right upper and left lower quadrants, respectively.

718. Rodríguez (J. D.). **A propósito de un caso de blastomicosis sudamericana observado en Guayaquil. I. Aspecto micológico.** [Concerning a case of South American blastomycosis in Guayaquil. I. Mycological aspect.]—*Rev. ecuator. Ent. Parasit.*, 1, 2, pp. 39–43, 1953.

The author describes the morphology, reproduction, growth in culture, inoculation, and laboratory diagnosis of *Paracoccidioides brasiliensis*, the agent of South American blastomycosis, from cultures supplied by the Oswaldo Cruz Institute [Rio de Janeiro, Brazil], and from the buccal mucosa and sputum of a male patient residing in Guayaquil, Ecuador.

719. Jervis (O.). **Blastomicosis sudamericana observado en Guayaquil. II. Aspecto clínico.** [South American blastomycosis in Guayaquil. II. Clinical aspect.]—*Rev. ecuator. Ent. Parasit.*, 1, 2, pp. 44–53, 3 figs., 1953.

A complete account is given of the symptoms, diagnosis, prognosis, and treatment of a case of South American blastomycosis (*Paracoccidioides brasiliensis*) in a 29-year-old chauffeur and agricultural labourer from Jujan, Guayaquil, Ecuador, characterized by ulceration of the upper lip, loss of voice, cough accompanied by the production of white, blood-flecked sputum, and diffuse chest pains. Radiographs revealed ulcero-fibrous lesions in both lungs, particularly the right.

A cure was effected by two months' treatment with crystalline penicillin G.

720. Ajello (L.) & Runyon (Laliah). **Abortive 'perithecial' production by Phialophora verrucosa.**—*Mycologia*, 45, 6, pp. 947–950, 2 figs., 1953.

At the Department of Health, Atlanta, Georgia, a teased mount of *Phialophora verrucosa* developed 'perithecial' initials in an intercalary or terminal position in the mycelium. By multiplication of the primary cell, a solid, multicellular, more or less spherical body was produced, and as it enlarged dematiaceous filaments appeared on the surface. These setae, attenuated at the tip, were composed of one or several cells and measured 20 to 60 by an average of 4 μ. The 'perithecia' consisted of a mass of pseudo-parenchymatous cells surrounded by a peridium one cell layer in thickness and measured 20 to 90 μ in diameter.

721. Barbosa (F. S.) & Renda (J.). **Cromomicoses em Pernambuco.** [Chromomycoses in Pernambuco.]—*An. bras. Derm. sif.*, 27, 4, pp. 159–165, 1952.

One case of chromoblastomycosis (*Phialophora verrucosa*) in a 47-year-old farmer is described and five other cases enumerated which were encountered during the past 17 years at the Faculty of Medicine, University of Recife, Pernambuco, Brazil. Two further cases investigated by Prof. J. Lobo bring the total for the State to eight.

722. Campins (H.) & Scharyj (M.). **Cromoblastomicosis. Comentarios sobre 34 casos, con estudio clínico, histológico y micológico.** [Chromoblastomycosis. Notes on 34 cases, with a clinical, histological, and mycological study.]—*Gac. méd. Carácas*, 61, 3–4, pp. 127–151, 12 figs., 1953. [English summary.]

The frequency of chromoblastomycosis in Venezuela [1, No. 2220] is demonstrated by this study of 34 cases, 19 male and 15 female, ranging from 21 to 78 years of age, the diagnoses being based on the presence of the causal fungi in the affected tissues. In only ten patients were the lower limbs affected; in 19 the upper extremities were involved, in three the face, and in two the buttocks. The plaque type of lesion was unmixed in nine cases and associated with the verrucose form in one. Histologically they were all predominantly tuberculoid. The majority of the patients resided in parts of Lara State where rainfall is scanty and spiny plants abound.

Cultures were obtained from 30 cases of which two have so far been identified as *Fonsecaea* [*Phialophora*] *compacta* and four as *P. pedrosoi* var. *cladosporioides*.

723. Netto (A. S. F.), De Britto (T.), De Almeida (F. P.). **Cromomicose do sistema nervoso ; estudo anátomo-clínico de um caso.** [Chromomycosis of the nervous system; anatomical and clinical case report.]—*Arq. neuropsiq.*, 11, 3, pp. 265–277, 5 figs., (1 col.), 1953. [English summary.]

This is a full report from the Faculty of Medicine, University of São Paulo, Brazil, of the clinical course and autopsy findings in a case of chromomycosis of the nervous system (believed to be the first on record) in a 34-year-old negro labourer. Repeated attempts to demonstrate the presence of fungi by direct examination and culture of biopsy specimens were unsuccessful, but at the post-mortem examination the typical dark brown organisms were detected in the giant cells occupying the centre of dense cellular conglomerations with a granulomatous pattern at the level of the cervical segments.

724. Howles (J. K.), Kennedy (C. B.), Garvin (W. H.), Brueck (J. W.), & Buddingh (G. J.). **Chromoblastomycosis. Report of nine cases from a single area in Louisiana.**—*Arch. Derm. Syph., Chicago*, 69, 1, pp. 83–90, 1 fig., 1954.

During the last two years nine cases of chromoblastomycosis, ordinarily considered a rare disease in the United States [2, Nos. 62, 286], have been recognized in the New Orleans area of Louisiana. In seven the diagnosis was established by positive biopsy and the demonstration of the causal organism in potassium hydroxide preparations of scrapings from the lesions and by cultural methods; in two, wet preparations and cultures were positive and biopsy negative; and in one only biopsy was positive. In seven cases the fungus was referred to *Hormodendrum* [*Phialophora*] *pedrosoi* and in one to *P. verrucosa*. All the patients were either engaged in agriculture, wood work, and similar pursuits or were resident in the country. Two cures were effected by excision of the lesions and skin grafting.

725. Hill (B. H. R.), Cook (L. G.), & Saxby (Cara). **Chromoblastomycosis (dermatitis verrucosa) : report of a case.**—*Aust. J. Derm.*, 2, 2, pp. 80–82, 1953.

A case of chromoblastomycosis (*Hormodendrum* [*Phialophora*] *pedrosoi*) involving the left forearm of a 70-year-old market-gardener, of Chinese origin but resident for 47 years in New Zealand, is reported from Napier. The clinical and histological features of the lesions corresponded to those described by Barrack from Queensland [2, No. 57].

726. Karrer (H.) & Conant (N. F.). **A cleistothecium-like structure found in Hormodendrum pedrosoi.**—*Mycologia*, 45, 5, pp. 693–697, 1 pl., 1953.

In studies at the School of Medicine, Duke University, Durham, North Carolina, an unnumbered strain of *Hormodendrum* [*Phialophora*] *pedrosoi* grown on Sabouraud's glucose agar, maize meal agar, and the same fortified with 1 per cent. yeast extract in Petri dishes, in tubed slants, and on slide cultures produced the *Hormodendrum*, *Acrotheca*, and *Phialophora* types of sporulation. Cleistothecium-like bodies reached their maximum number, largest dimensions, and fullest development on glucose agar slide cultures at room temperature, developing within two weeks as lateral outgrowths from the mycelium. At first greenish, they turned progressively darker, and from small, multicellular structures resembling chlamydospores they developed into large, round, membranous to carbonaceous bodies 40 μ in diameter, with a parenchymatous wall consisting of one layer of polygonal cells, from the base of which arose many septate setae of different lengths.

727. Trejos (A.). **Cromoblastomicosis experimental en Bufo marinus.** [Experimental chromoblastomycosis in *Bufo marinus*.]—*Rev. Biol. trop.*, 1, 1, pp. 39–53, 4 pl., 1953. [English and Italian summaries.]

The post-mortem examination of toads (*Bufo marinus*) inoculated with culture suspensions of *Fonseca* [*Phialophora*] *pedrosoi* from human cases of chromoblastomycosis at the Hospital of San Juan de Dios, San José, Costa Rica [1, No. 2262], revealed cutaneous nodules of typical granulomatous formation containing the fungus in the rounded shape occurring in human lesions.

728. Romero (A.) & Trejos (A.). **La cromoblastomicosis en Costa Rica.** [Chromoblastomycosis in Costa Rica.]—*Rev. Biol. trop.*, 1, 2, pp. 95–115, 5 pl., 1 map, 1953. [French and English summaries.]

The authors review briefly the four cases of chromoblastomycosis already reported from Costa Rica [see preceding entry] and present a comparative study of 30 more, all but one in male field labourers. Nineteen more cases were confirmed after this study was made. A grouping of the various clinical forms is suggested and the two classifications previously proposed are reviewed.

The most adequate treatment appears to comprise thorough excision of all lesions coupled with the oral administration of high doses of potassium iodide.

729. Akün (R.). **Chromoblastomykose beim Pferde.** [Chromoblastomycosis in the Horse.]—*Dtsch. tierärztl. Wschr.*, 60, 45–46, p. 519, 1953.

A case of chromoblastomycosis (*Phialophora verrucosa*) involving the left side of the nasal septum in a horse is reported from the Military Veterinary Academy, Ankara, Turkey. The histological appearance of the granulomata presented close analogies with actinomycotic granular tissue.

730. Akün (R.). **Eine chromoblastomykosisähnliche Pilzkrankeit beim Pferde**, [A chromoblastomycosis-like fungal disease in the Horse.]—*Zbl. allg. Path. path. Anat.*, 90, 7–8, pp. 294–297, 6 figs., 1953.

The examination at the Military Veterinary Academy, Ankara, Turkey, of tissue sections from a tumour in the nasal septum of a horse revealed circular or polygonal, yeast-like elements, 8 to 17 μ in diameter, surrounded by a strongly refractive, blackish-brown capsule, staining red with Bauer's reagent and therefore containing polysaccharides. The general picture presents a close resemblance to human chromoblastomycosis (*Phialophora verrucosa*).

731. Schwarz (J.), Schornagel (H. E.), & Straub (M.). **A case of torulosis; fungus diseases and tuberculosis, similarity and differences.**—*Docum. Med. geogr. trop.*, 6, 1, pp. 69–75, 6 figs., 1954.

The analogies and differences between three mycoses, namely, histoplasmosis (*Histoplasma capsulatum*), coccidioidomycosis (*Coccidioides immitis*), and blastomycosis (*Blastomyces dermatitidis*), and tuberculosis are briefly surveyed. A case of torulosis (*Torula*) [*Cryptococcus neoformans*] localized in the intestine, meninges, and lungs and accompanied by miliary dissemination, is reported in a 58-year-old female patient at a municipal hospital in Rotterdam, Holland.

732. Blank (F.) & Burke (Ruth C.). **Chemical composition of the cell wall of Coccidioides immitis.**—*Nature, Lond.*, 173, 4409, p. 829, 1954.

Co-operative studies between the Department of Bacteriology and Immunology, McGill University, Montreal, and the Harvard Medical School, Boston, Massachusetts, demonstrated that the cell walls of the mycelium of *Coccidioides immitis*, the agent of coccidioidomycosis, are composed of chitin [2, No. 290].

733. Wier (R. H.), Egeberg (R. O.), Lack (A. R.), & Leiby (G. M.). **A clinical trial of prodigiosin in disseminated coccidioidomycosis.**—*Amer. J. med. Sci.*, 224, 1, pp. 70–76, 1952.

This is a report from the Wadsworth General Hospital, Veterans Administration Center, Los Angeles, California, on the treatment of 14 negro patients suffering from disseminated coccidioidomycosis (*Coccidioides immitis*) with prodigiosin [1, Nos. 2381, 2432, and next entry], which resulted in three apparent recoveries and three clinical improvements.

734. Egeberg (R. O.). **Coccidioidomycosis. Its clinical and climatological aspects with remarks on treatment.**—*Amer. J. med. Sci.*, 227, 3, pp. 268–271, 1954.

The more important environmental aspects of the areas where coccidioidomycosis (*Coccidioides immitis*) is endemic are described and discussed. The need to differentiate between primary and disseminated coccidioidomycosis [see preceding entry] is emphasized. The present concepts of therapy of the disease, both general and specific, are briefly reviewed, with a note on the use of prodigiosin as reported above.

735. Mankowski (Z. T.) & Young (R. M.). **La coccidioidomycose.** [Coccidioidomycosis.]—*Sem. Hôp., Paris*, 29, 23, pp. 1185–1189, 2 figs., 1953.

Important information on the clinical aspects of coccidioidomycosis (*Coccidioides immitis*) is presented in this review from Philadelphia of 13 contributions to the literature on the subject.

736. Mumma (C. S.). **Coccidioidomycosis of the epiglottis.**—*Arch. Otolaryngol.*, 58, 3, pp. 306–309, 2 figs., 1953.

Localized coccidioidomycosis (*Coccidioides immitis*) of the upper respiratory tract is stated to be a rare condition. The present case concerns a 37-year-old male negro patient at the Veterans Administration Hospital, Los Angeles, California, suffering from a granulomatous lesion of the epiglottis.

737. **Clinical conference : coccidioidomycosis.**—*J. Pediat.*, 42, 6, pp. 739–742, 2 figs., 1953.

From the Los Angeles Children's Hospital is presented the case of a five-year-old girl suffering from a fever and what appeared in an X-ray to be a thin-walled cavity of the lung. The child reacted positively to coccidioidin and lived near an area of endemic coccidioidomycosis [*Coccidioides immitis*], and although no culture was attempted she was believed to have contracted the disease.

738. Newcomer (V. D.), Wright (E. T.), Leeb (A. J.), Tarbet (J. E.), & Sternberg (T. H.). **The evaluation of nystatin on the course of coccidioidomycosis in Mice.**—*J. invest. Derm.*, 22, 6, pp. 431–440, 1 graph, 1954.

In this joint report from the GM and S Hospital and the University of California Medical Center, Los Angeles, California, fungicidin (nystatin) [2, No. 737] is stated to be fungicidal to *Coccidioides immitis in vitro* at a concentration of 6·25 μgm. per ml. and fungistatic at 1·56 μgm. It may be administered daily to mice through the intraperitoneal route in doses up to 20 mg. per kg. body weight for protracted periods (as long as 85 days) without ill effects. Clinical, gross, and microscopic evidence (besides the cultural) is available for the fungicidal action of fungicidin on *C. immitis*, and the antibiotic is considered to merit further studies as a potential remedy for coccidioidomycosis.

739. Castro (A.) & Trejos (A.). **Primer caso centroamericano de coccidioidomicosis.** [First Central American case of coccidioidomycosis.]—*Rev. Biol. trop.*, 1, 1, pp. 83–93, 3 pl., 1953. [English summary.]

A case of coccidioidomycosis (*Coccidioides immitis*) in a 51-year-old chauffeur is reported from San José, Costa Rica, this being the first record of the disease in Central America. The fungus was isolated from the sputum and from pus exuded from supraclavicular fistulae. A fistula formed later in the popliteal region. Treatment consisted of 17 subcutaneous injections with coccidioidin at doses increasing progressively from 0·1 ml. of a 1 in 10,000 solution to 0·8 ml. at 1 in 1,000 and 54 intramuscular injections, each of 5 ml. colloidal copper.

After leaving hospital the patient reported reopening of the popliteal fistula and the appearance of further supraclavicular ganglions, accompanied by rises in temperature.

740. Negroni (P.). **Estudios sobre el Coccidioides immitis Rixford et Gilchrist. III. Consideraciones sobre la endemia americana a propósito de una nueva observación.** [Studies on *Coccidioides immitis* Rixford & Gilchrist. XIII. Considerations on American endemiology in connexion with a new observation.]—*Rev. argent. Dermatosif.*, 37, 2–3, pp. 107–113, 2 maps, 1953. [English summary.]

In connexion with a further report of coccidioidomycosis (*Coccidioides immitis*), which developed in a 40-year-old housewife during a visit to Río Hondo, Santiago del Estero, Argentina [1, Nos. 1376 *et seq.*, 2120], the author

observes that the disease is endemic exclusively in the arid zones of the American continent, between latitudes 40° N. and 40° S. All are desert areas, remote from the humid winds of the Atlantic and Pacific Oceans, with a tropical or subtropical climate, sandy, clayish soil, and xerophilic vegetation.

Half the clinical cases reported from Argentina originated in the province of Santiago del Estero and the adjacent zone of Tucumán, where 20 per cent. of the coccidiodin tests on school-boys were positive.

741. Steinberg (I. R.), Ink (J.), Iaricci (V.), & Ygobone (A.). **Sobre un caso de enfermedad de Wernicke-Posadas. Coccidiomicosis. Su estudio clínico, bacteriológico y anátomo-patológico.** [Study of a case of coccidioidomycosis from the clinical, bacteriological, and anatomopathological aspects.]—*Semana méd.*, 103, 19, pp. 669–670, 683–684, 5 figs., 1953.

This is a report from the Durand Polyclinic, Buenos Aires, Argentina, of a case of coccidioidomycosis (*Coccidium* [*Coccidioides*] *immitis*) in a 26-year-old builder. Infection originated as a swelling on the big toe of the right foot and gradually spread to the internal organs, especially the lungs, liver, and spleen, the skin also being extensively involved. The illness terminated fatally about seven years after its onset.

742. Halpert (B.), Whitcomb (Frances C.), McRoberts (Carrie C.), & Carton (C. A.). **Systemic and central nervous system involvement in cryptococcosis and coccidioidomycosis.**—*Sth. med. J.*, 47, 7, pp. 633–642, 6 figs., 1954.

The greater frequency with which lesions induced by *Cryptococcus neoformans* and *Coccidioides immitis* are being recognized is attributed to increased awareness of the potential fungous etiology of disease, which in turn has stimulated a wider application of laboratory methods and a more intensive search for causative organisms. From the Veterans Administration Hospital, Houston, Texas, three cases of cryptococcosis and nine of coccidioidomycosis are reported, with special emphasis on the problems of clinical and laboratory diagnosis.

743. Fiese (M. J.), Radding (J.), Cheu (S.), & Steinbach (O. K.). **Disseminated coccidioidomycosis. Treatment with ethyl vanillate—a preliminary report.**—*Calif. Med.*, 80, 5, pp. 349–356, 3 graphs, 1954.

Ethyl vanillate, previously reported to be effective in the treatment of disseminated histoplasmosis (*Histoplasma capsulatum*) [2, No. 519], was administered to eight patients with disseminated coccidioidomycosis (*Coccidioides immitis*) at the Veterans Administration Hospital, Fresno, California. In three the disease was apparently arrested, but the others were too ill to tolerate the large amounts of the drug required to attain a therapeutic concentration in the blood.

744. Cordy (D. R.) & Jay (D. H.). **Coccidioidomycosis of the skeleton in a Dog.**—*N. Amer. Vet.*, 34, 1, pp. 44–46, 1953.

The sixth reported occurrence of disseminated coccidioidomycosis (*Coccidioides immitis*) in the dog [1, No. 1155] involved the last molar tooth in the left mandible, the mandible itself, and the left radius and ulna in a 13-month-old female black Labrador near Fresno, California.

745. Da Silva (N. N.). **Criptococose cutânea.** [Cutaneous cryptococcosis.]—*Hospital, Rio de J.*, 44, 3, pp. 375–381, 2 figs., 1953. [English summary.]

In 1952 *Cryptococcus neoformans* was isolated on Sabouraud's glucose agar from hypertrophic, framboesiform lesions on the scalp and face, as well as from

the sputum and faeces of a 40-year-old male resident of Pôrto Alegre, Brazil. The cutaneous lesions were rapidly cured by sulphonamide therapy, but the patient remains a 'carrier' of the fungus, which persists in the sputum, though divested of its typical gelatinous capsule. Guinea-pigs inoculated through the testicular route developed hypertrophic lesions round the eyes and mouth, thereby demonstrating the marked dermotropism of the particular strain of *C. neoformans* under observation.

746. Zeman (W.) & Bebin (J.). **Zur pathologischen Anatomie der Torula-Meningoencephalitis.** [On the pathological anatomy of the *Torula* meningo-encephalitis.]—*Dtsch. Z. Nervenheilk.*, 168, 5, pp. 406–417, 7 figs., 1952.

The histological findings in four cases of meningo-encephalitis (*Torulopsis* [*Cryptococcus*] *neoformans*), three in males aged 17, 69, and 38, and one in a 38-year-old female at the Psychiatric Clinic of the University of Michigan, Ann Arbor, are fully reported and discussed.

747. Bacon (A. E.), Scott (E. G.), & Huntington (P. W.). **Meningoencephalitis due to Cryptococcus neoformans.**—*Delaware St. med. J.*, 26, 1, pp. 3–8, 3 figs., 1 graph, 1954.

A fatal case of meningo-encephalitis caused by *Cryptococcus neoformans* in a 52-year-old woman is reported from the Delaware Hospital, Wilmington. This is only the second record of torulosis in the State, the first dating from 1946 (*Delaware St. med. J.*, 18, p. 141]. The administration of penicillin, sulphadiazine, adrenocorticotropical hormone, and stilbamidine elicited no response, and the last-named likewise failed to alter the course of the disease in experimentally infected mice [2, Nos. 260, 261].

748. Einbinder (Julia M.), Benham (Rhoda W.), & Nelson (C. T.). **Chemical analysis of the capsular substance of Cryptococcus neoformans.**—*J. invest. Derm.*, 22, 4, pp. 279–283, 1954.

At the College of Physicians and Surgeons, Columbia University, New York City, the capsular polysaccharide isolated from *Cryptococcus neoformans* var. *innocuous* [2, No. 34] was found to be composed of 6·7 per cent. hexuronic acid expressed as glucuronic acid, 18·1 per cent. hexose as glucose, and 31 per cent. pentose as arabinose.

749. Evans (E. E.) & Theriault (R. J.). **The antigenic composition of Cryptococcus neoformans. IV. The use of paper chromatography for following purification of the capsular polysaccharide.**—*J. Bact.*, 65, 5, pp. 571–577, 1953.

Some purification of the capsular polysaccharide of *Cryptococcus neoformans* type B [1, No. 2111] has been accomplished at the University of Michigan, by precipitation with heavy metals and fractional alcohol precipitation, the separation of the crude polysaccharide into two fractions being followed by paper chromatography. Absorption experiments indicate that two of the fractions are identical with the polysaccharide of the intact capsule, both being essentially nitrogen-free and yielding approximately 75 per cent., reducing sugar, as glucose, after hydrolysis. There was no detectable degradation during isolation procedures as measured by the quantitative precipitin test and relative viscosity determinations. Hydrolysis products of these two fractions have been identified as xylose, mannose, and glucuronic acid.

750. Miller (J. M.), Smith (G. W.), & Headley (W. H.). **Treatment of Cryptococcus neoformans in Mice with stilbamidine.**—*Science*, 118, 3053, p. 31, 1953.

In this joint contribution from the Veterans Administration, Fort Howard,

and the Johns Hopkins Hospital and University School of Medicine, Baltimore, it is stated that large doses of stilbamidine, administered intraperitoneally, failed to prevent the death of mice inoculated with *Cryptococcus neoformans* in the cerebral cortex.

751. Scherr (G. H.). **The susceptibility of Mice infected with Cryptococcus neoformans to encephalomyocarditis virus.**—*J. Bact.*, 65, 4, pp. 480–481, 1952.

While the mortality of mice inoculated at the Creighton University School of Medicine, Omaha, Nebraska, with 0·1, 0·5, and 1 ml. of a standard cell suspension of *Cryptococcus neoformans* was 2·5, 17·5, and 20 per cent., respectively, and that of those inoculated intranasally with the encephalomyocarditis virus 65 per cent., in another lot inoculated with the virus after infection with *C. neoformans* at the foregoing levels it was only 37·5, 25, and 30 per cent., respectively. Thus, inoculation with all concentrations of *C. neoformans* conferred some protection against the effects of subsequent infection with the encephalomyocarditis virus.

752. Smith (G. W.), Mosberg (W. H.), Manganiello (L. O. J.), & Alvarez de Choudens (J. A.). **Torulosis of the central nervous system in the laboratory animal.**—*Bull. Sch. Med. Univ. Md*, 38, 1, pp. 32–41, 7 figs., 1953.

At the Neurosurgical Research Laboratory, University of Maryland, Baltimore, the intracranial inoculation of various laboratory animals with three strains of *Cryptococcus neoformans* resulted in cerebral hyperaemia and oedema and recovery of the fungus in culture from the autopsied brain. The inverse relationship between increased body temperature and susceptibility to infection [1, No. 1360] was demonstrated in the course of the studies, indicating the way for continued research on the therapy of the disease.

753. Stijns (J.) & Boyer (P.) with the technical assistance of A. Bouckaert. **Un case de méningite à Torulopsis au Congo Belge.** [A case of meningitis due to *Torulopsis* in the Belgian Congo.]—*Ann. Soc. belge Méd. trop.*, 33, 5, pp. 483–486, 1 fig., 1953. [Flemish summary.]

The first case of meningitis due to *Torulopsis* [*Cryptococcus*] *neoformans* is reported from the Belgian Congo [see next entries], the 40-year-old male native patient succumbing at the Prince Leopold Hospital, Elisabethville, after about six weeks' illness.

754. Vanbreuseghem (R.). **Torulose et Torulopsis neoformans.** [Torulosis and *Torulopsis neoformans*.]—*Ann. Soc. belge Méd. trop.*, 33, 5, pp. 495–501, 1 fig., 1953. [Flemish summary.]

The author describes his studies at the Institute of Tropical Medicine, Antwerp, on the strain of *Torulopsis* [*Cryptococcus*] *neoformans* isolated from the first case of meningitis caused by the fungus in the Belgian Congo [see preceding and next entries]. Of particular interest was the development from the 25th to the 30th day in cultures on plaster of 'expulsion forms' suggestive of Todd & Hermann's 'spheroids' (*J. Bact.*, 32, pp. 89–102, 1936).

755. Vandepitte (J.), Colaert (J.), & Liegeois (A.). **Leptoméningite aiguë à Torulopsis neoformans. Seconde observation congolaise.** [Acute leptomeningitis due to *Torulopsis neoformans*. Second Congolese observation.]—*Ann. Soc. belge Méd. trop.*, 33, 5, pp. 503–509, 1953. [Flemish summary.]

This is a full report from Léopoldville, Belgian Congo, on a fatal case of leptomeningitis caused by *Torulopsis* [*Cryptococcus*] *neoformans* [see preceding entries] in a nine-year-old boy.

756. Köhlmeier (W.) & Kreitner (H.). **Blastomykose der Mamma.** [Blastomycosis of the breast.]—*Wien. klin. Wschr.*, 65, 1, pp. 13–15, 3 figs., 1953.

The fungus isolated from an abscess in the parenchyma of the right breast of a 25-year-old female patient at the Vienna General Polyclinic was identified by Dr. A. Janke as closely allied to *Torulopsis inconspicua*. A recurrence three months after excision and the application to the operation wound of cibazol dust and PAS necessitated further treatment in the form of 10 injections of yatren-casein forte, which resulted in an apparently complete cure.

757. Alix y Alix (J.) & Canto Borreguero (G.). **Algunos aspectos de los micosis pulmonares.** [Some aspects of pulmonary mycosis.]—*Rev. clín. esp.*, 47, 2, pp. 81–90, 16 figs., 1952. [English, German, and French summaries.]

A case of pulmonary torulosis [*Cryptococcus neoformans*] in a 50-year-old mechanic is reported from Madrid, this being the first record of the disease in Spain. A course of treatment with penicillin resulted in the patient's recovery. Three other cases are also presented, one each of actinomycosis (*Actinomyces* [*israeli*]) and moniliasis (*Candida albicans*), and one characterized by symptoms of sensitization to *Penicillium* and *Actinomyces*.

758. Stiefel (E.), Andreu Urra (J.), & Lazaro (J.). **La criptococosis pulmonar.** [Pulmonary cryptococcosis.]—*Rev. clín. esp.*, 49, 5, pp. 293–300, 2 figs., 1953. [English, German, and French summaries.]

Following a review of nine contributions to the literature on pulmonary cryptococcosis (*Cryptococcus neoformans*), the authors describe three cases from the University Medical Clinic, Seville, Spain, all in males, aged 29, 42, and 41.

759. Königsbauer (H.). **Über die Wirkung von Corton auf die experimentelle Torulose und Chromoblastomykose.** [Concerning the influence of corton on experimental torulosis and chromoblastomycosis.]—*Zbl. Bakt.*, Abt. 1 (*Orig.*), 160, 7–8, pp. 637–643, 4 figs., 1954. [English, French, and Russian summaries.]

Large doses (40 mg. per 150 gm. body weight) of corton (cortisone) accelerated the spread and intensity of infection in 20 white rats inoculated with *Torulopsis* [*Cryptococcus*] *neoformans*. Applied at the same strength to 12 rats inoculated with *Hormodendrum* [*Phialophora*] *pedrosoi*, the drug merely inhibited proliferation of the connective tissue and reduced the numbers of leucocytes and lymphocytes in the inflamed granulation tissue.

760. Portella (A.). **Su un caso di meningite da Torulopsis neoformans (Cryptococcus). Studio del micete isolato.** [On a case of meningitis caused by *Torulopsis neoformans* (*Cryptococcus*).]—*Riv. Ist. sieroterap. ital.*, 28, 5, pp. 524–530, 1 fig., 1953. [English summary.]

From the Institute 'Luciano Armanni', Naples, the author describes the cultural characters, pathogenicity to guinea-pigs and rabbits, and reactions to antibiotics of a strain of *Cryptococcus neoformans* isolated from the spinal liquid of a female patient with meningitis, who recovered after a course of streptomycin therapy.

761. Königsbauer (H.). **Über die Wirkung von D 25 (2,2′-dioxy-5,5′-dichlordiphenylsulfid) auf die experimentelle Haplosporangiose der Ratte.** [On the influence of D25 (2,2′-dioxy-5,5′-dichlordiphenylsulphide) on experimental haplosporangiosis of the Rat.]—*Arch. Derm. Syph., Wien*, 197, 6, pp. 521–527, 2 figs., 1954.

In *in vitro* experiments at the author's private laboratory for microbiology

and dermatology, Knittelfeld, Austria, the growth of *Haplosporangium parvum* in Czapek-Dox solution with the addition of 5 gm. peptone-proteose per 1,000 ml. was totally inhibited by D25 [1, No. 2321] at a dilution of 1 in 125,000. In *in vivo* tests on 72 rats inoculated with the fungus through the intraperitoneal route the administration of the compound at a dosage of 1·5 mg. per gm. body weight led to a more rapid regression of abdominal inflammation than in the untreated controls and in a reduction (but not elimination) of the number of chlamydospores in the infected tissues.

762. Paynter (H. S.). **Deep mycoses in Hawaii. Histoplasmin, coccidioidin, haplosporangin and blastomycin sensitivity and a review of cases of mycoses.**—*Hawaii med. J.*, 13, 3, pp. 189–194, 1954.

The results of intradermal tests on 1,766 residents of the Territory of Hawaii indicate that the small number of positive reactors to histoplasmin, namely, six (0·6 per cent.) of 933, haplosporangin one (0·4 per cent.) of 256, and blastomycin eight (3·1 per cent.) of 256 and the absence of coccidioidin sensitivity and of proved cases of haplomycosis or blastomycosis were probably due either to cross-reactions between the antigens used and the antigenically related fungi or to the existence of benign forms of the mycoses. More positive reactors were obtained among males than females and in rural districts than in towns. Sensitivity reached a maximum between 21 and 50 years. It was established that the sources of actinomycosis bovis [*Actinomyces bovis*], nocardiosis [*Nocardia* spp.], maduromycosis, sporotrichosis (*Sporotrichum schencki*), cryptococcosis (*Cryptococcus neoformans*), and moniliasis [*Candida*], are present in the Territory.

763. Kessler (P. N.). **Beitrag zum Krankheitbild der Histoplasmose.** [A contribution to the clinical picture of histoplasmosis.]—*Med. Klin., Berl.*, 48, 45, pp. 1662–1664, 1953.

Information is presented on the history, geographical distribution, epidemiology and clinical course, methods of diagnosis, and therapy of histoplasmosis (*Histoplasma capsulatum*).

764. Albrecht (J.). **Neues über Histoplasmose.** [New facts about histoplasmosis.] —*Med. Mschr.*, 6, 11, pp. 692–694, 1952.

This is a compilation of recent information concerning histoplasmosis (*Histoplasma capsulatum*) gleaned from contributions to the literature on various aspects of the disease, including its clinical and post-mortem manifestations (emphasizing the analogies with tuberculosis), the mode of transmission of infection, and the application of the histoplasmin skin test as an aid to diagnosis.

765. Ibach (Martha J.), Larsh (H. W.), & Furcolow (M. L.). **Isolation of Histoplasma capsulatum from the air.**—*Science*, 119, 3080, p. 71, 1954.

The cleaning-out of an unused chicken house was followed by an epidemic of histoplasmosis in a farm family in Kansas; *Histoplasma capsulatum* was isolated from debris in the chicken house and from soil just outside [2, No. 532]. Infection was also detected in animals. In western Missouri a soldier suffered from a severe attack of pulmonary histoplasmosis after cleaning a chicken house, in the debris of which *H. capsulatum* was found. The atmosphere in these chicken houses was repeatedly sampled with portable Venturi scrubber air samplers [see next entry] without disturbing the debris on the floor, and five out of 13 specimens were found to contain *H. capsulatum*.

766. Rooks (R.). **Air-borne Histoplasma capsulatum spores.**—*Science*, 119, 3090, pp. 385–386, 1 fig., 1954.

In studies at the College of Medicine, University of Iowa, a continuous recording particle sampler was kept in uninterrupted operation from early spring until late autumn, 1952. Records for the period 26th to 31st August, showed the presence of 19 spores of *Histoplasma capsulatum* [see preceding entry], the maximum rate of deposition being six per hour. As each hour's reading represents approximately 1 cu. yd. of sampled air, this result, if the dosage were maintained over a 24-hour period, would mean an inhalation rate of *H. capsulatum* spores, for the adult at rest, of approximately 100 during normal activity. The dosage of six per hour, though the maximum for any hour of sampling, represents the minimum exposure of persons living in the area, since the sampler was 75 ft. above ground.

767. Cooke (W. B.) & Kabler (P. W.). **The survival of Histoplasma capsulatum in water.**—*Lloydia*, 16, 4, pp. 252–256, 1953.

In studies at the Environmental Health Center, United States Public Health Service, Cincinnati 26, Ohio, both the mycelial and the yeast phases of *Histoplasma capsulatum* were shown by recovery from inoculated mice to persist for at least 180 days in sterilized Cincinnati tap water and sterilized and unsterilized Ohio River water stored at 5° and 20° C. With four exceptions, both phases also persisted for at least 140 days in the same media stored at 37°. The evidence obtained indicated that both phases increased in all the waters, which initially contained 'carry-over' nutrient material from the media originally supporting the yeast and spore suspensions. In these water samples the yeast phase readily became converted to the mycelial at 5° and 20°, while the process was reversed, at least in part, at 37°.

768. Mack (J. K.). **The isolation of Histoplasma capsulatum from a hollow tree.**—*J. Pediat.*, 44, 1, pp. 46–49, 2 figs., 1954.

A localized outbreak of pulmonary histoplasmosis (*Histoplasma capsulatum*) is reported from Springfield, Illinois, where the fungus was isolated from the probable source of infection in a hollow tree. Positive skin reactions in contacts were demonstrated.

769. Kurung (J. M.) & Yegian (D.). **Medium for maintenance and conversion of Histoplasma capsulatum to yeastlike phase.**—*Amer. J. clin. Path.*, 24, 4, pp. 505–508, 1954.

From the Ray Brook State Tuberculosis Hospital, New York, the authors describe a method for the conversion of *Histoplasma capsulatum* from the mycelial to the yeast-like phase [1, No. 936] and its maintenance therein for lengthy periods (at least three months at room temperature and over nine at 4° C.), using a medium composed of 1 gm. potato flour, 100 ml. distilled water, and 150 ml. egg mixture. Similar results were obtained with cultures of *Blastomyces dermatitidis*, *B.* [*Paracoccidioides*] *brasiliensis*, and *Sporotrichum schencki*.

770. Schulz (D. M.). **Histoplasmosis : a statistical morphological study.**—*Amer. J. clin. Path.*, 24, 1, pp. 11–26, 8 figs., 2 graphs, 1954.

From a statistical analysis at the Indiana University School of Medicine, Indianapolis, of the frequency of occurrence of histoplasmosis (*Histoplasma capsulatum*) lesions, it appears that in adults there is a marked predilection for males and less tendency towards widespread visceral involvement than in infants. Infection of the mouth, nose, and larynx is almost exclusively

confined to adults, often as a localized process without dissemination, the respiratory tract evidently being the usual portal of entry.

Three additional cases of disseminated histoplasmosis, with a primary complex suggestive of tuberculosis, are presented, two in female infants aged 4 and 15 months and one in a three-month-old boy.

An infrequently described but commonly observed vascular lesion consists of an eccentric bulging of the endothelium into the lumen of the blood vessel caused by subendothelial masses of parasitized macrophages.

771. Silverman (F. N.) & Schwarz (J.). **Histoplasmosis en Niños.** [Histoplasmosis in children.]—*Rev. chil. Pediat.*, 23, 6, pp. 225–241, 7 figs., 1 map, 1952. [English summary.]

Current knowledge of the epidemiology, mycology, pathology, and laboratory techniques for the diagnosis of histoplasmosis (*Histoplasma capsulatum*) in infancy [2, No. 316] is discussed. One fatal and three non-fatal cases are described and illustrated, with a brief discussion of their clinical and radiological characteristics.

772. Campbell (Charlotte C.) & Binkley (Grace E.). **Serologic diagnosis with respect to histoplasmosis, coccidioidomycosis and blastomycosis, and the problem of cross reactions.**—*J. Lab. clin. Med.*, 42, 6, pp. 896–906, 2 figs., 1953.

At the Walter Reed Army Medical Center, Washington, D.C., a study of 37 proved cases of histoplasmosis (*Histoplasma capsulatum*) demonstrated the occurrence of different serological patterns in primary pulmonary infections and in chronic and advanced cases; in some patients from each of these groups there was no detectable antibody, while titres were low or absent in disseminated and terminal cases. On the other hand, in 65 cases of blastomycosis (*Blastomyces dermatitidis*) and 77 of coccidioidomycosis (*Coccidioides immitis*), the titre increased with the severity of the disease. Sera from patients with blastomycosis and histoplasmosis usually react both with histoplasmin and *B. dermatitidis* antigens, but neither reacts with coccidioidin. Thus, the available antigens are not specific, but the method of preparation appeared to have little effect on their efficiency, cross-reactions occurring in all types especially of histoplasmin.

773. Hazen (Elizabeth L.) & Tahler (E. D.). **Quantitative complement-fixation tests for evidence of histoplasmosis and blastomycosis.**—*Rep. N.Y. St. Dep. Hlth, 1952*, pp. 77–78, 1952.

In further complement-fixation tests at the New York State Department of Health with human sera from suspected cases of histoplasmosis (*Histoplasma capsulatum*) and blastomycosis (*Blastomyces dermatitidis*) [1, No. 2436], non-reacting sera constituted approximately 67 per cent. of the specimens examined (264 sera from 293 patients). The 37 reacting sera (titres of 8 and upwards) from 19 patients comprised approximately 9 per cent. of the total. The sera from 16 of the patients displayed marked reactivity with one or both of the *H. capsulatum* antigens, and sera from six of these showed cross-reactivity, though to a lesser degree, with the extract antigen of *B. dermatitidis*. Low reactions (titres less than 8) were obtained with 54 specimens from 49 patients with one or both *H. capsulatum* antigens.

774. Hewell (Barbara A.) & Schwartz (J.). **Epidemiologic aspects of skin reactions to tuberculin, histoplasmin and blastomycin.**—*Cincinn. J. Med.*, 33, 4, pp. 284–286, 1952.

This is a discussion of the epidemiological aspects of the skin reactions of

selected schoolchildren aged five to 18 in Hamilton County, Ohio, to tuberculin, histoplasmin, and blastomycin, studied in conjunction with chest X-rays [2, No. 317].

775. Hennemann (H. H.). **Epidemiologische Untersuchungen über Histoplasminempfindlichkeit.** [Epidemiological studies on histoplasmin sensitivity.] *Beitr. Klin. Tuberk.*, 108, 1–2, pp. 20–22, 1953.

None of the 368 patients between the ages of 15 and 75 in the Charité Hospital, Berlin, mostly with hilar and pulmonary calcifications, who were tested for histoplasmin sensitivity reacted positively. From these and other negative results it is concluded that pulmonary calcification in the city is of exclusively tubercular origin and that there are no clinical grounds for the belief in a cross-reaction between tuberculin and histoplasmin.

776. Casas Carnicero (J.). **Estudio sobre la prueba de histoplasmina.** [Studies on the histoplasmin test.]—*Rev. clín. esp.*, 47, 4, pp. 238–242, 1952. [English, German, and French summaries.]

At the University of Valladolid, Spain, the histoplasmin test was applied to 310 Air Force recruits and 93 students. In the former group four reacted positively to the antigen at a dilution of 1 in 1,000 and 25 at 1 in 100, giving a total of 9·5 per cent.; the latter comprised only two positive reactors.

777. O'Neal (R. M.). **Histoplasmin sensitivity in Mississippi : a new boundary.**—*Publ. Hlth Rep., Wash.*, 68, 7, pp. 714–716, 1 map, 1953.

Of 295 patients at the Mississippi State Sanatorium tested for histoplasmin sensitivity over the period from March, 1951, to March, 1952, 65 (22 per cent.) reacted positively. The differences between the sexes and races were not significant. There was, however, a statistically significant difference in the numbers of positive reactors residing in the northern and southern areas of the State (46 out of 146 or 31·5 per cent. and 19 out of 149 or 12·8 per cent., respectively).

778. Montgomery (D. O.). **Histoplasmosis in Texas ; a report of two cases.**—*St. J. Med.*, 48, 7, pp. 471–472, 1952.

Notes are given on two fatal cases of systemic histoplasmosis (*Histoplasma capsulatum*) which occurred within three years in patients aged 59 and 58 at a Texas Veterans Administration hospital [2, No. 320]. The first was admitted after suffering from painful teeth and gums for 11 months. At autopsy lesions were observed in the mouth, larynx, trachea, bronchi, lungs, liver, adrenals, spleen, kidneys, brain, and aorta. The second patient had previously spent nine months in a sanatorium with pulmonary tuberculosis. The autopsy further revealed tuberculosis of the hilar lymph nodes, larynx, large and small bowels, liver, spleen, and kidneys. *H. capsulatum* was isolated from granulomatous lesions in the hilar lymph nodes, liver, spleen, bone marrow, and bowels.

779. Palchanis (W. T.). **Tuberculosis and histoplasmosis in foreign students entering our colleges.**—*Dis. Chest*, 23, 5, pp. 552–557, 1953.

A survey carried out by the University Health Service of Ohio State University demonstrated that all the 136 students from 47 foreign countries who had never lived in the United States reacted negatively to histoplasmin. Lesions indicative of benign or healed histoplasmosis [*Histoplasma capsulatum*] could be detected only in students from the United States.

780. Fox (H.). **Exfoliative dermatitis complicated by fatal acute disseminated histoplasmosis.**—*Arch. Derm. Syph., Chicago*, 68, 6, pp. 734–737, 1953.

At Cincinnati, Ohio, a 17-year-old girl suffering from exfoliative dermatitis of the trunk was successfully treated with cortisone, but on withdrawal of the drug the lesions recurred with such severity as to presage a fatal termination without further cortisone therapy, together with penicillin and streptomycin. During this period a sudden clinical deterioration ensued and *Histoplasma capsulatum* was recovered from the pleural fluid and blood, the patient dying shortly afterwards. The autopsy revealed disseminated histoplasmosis. It is suggested that cortisone may either directly promote the growth of the fungus (which has not been proved *in vitro*) or weaken the immune reactions of the body and so allow the disease to spread.

781. Fois (A.). **Ricerche preliminari sulla cutireattività alla istoplasmina e alla coccidioidina in un gruppo di bambini della Toscana.** [Preliminary studies on cutaneous reactions to histoplasmin and to coccidioidin in a group of children in Tuscany.]—*Riv. Clin. pediat.*, 51, 6, pp. 840–844, 1953. [French and English summaries.]

There were no positive reactors to coccidioidin and histoplasmin skin tests among 145 children resident in the province of Tuscany, Italy.

782. Kaur Dhariwal (G.) & Chakravarty (N. K.). **Histoplasmin, coccidioidin, blastomycin, tuberculin sensitivity in relation to tropical eosinophilia and pulmonary calcifications.**—*Indian med. Gaz.*, 89, 1, pp. 23–27, 1954.

Some contributions to the literature on pulmonary involvement in histoplasmosis (*Histoplasma capsulatum*), coccidioidomycosis (*Coccidioides immitis*), and blastomycosis (*Blastomyces dermatitidis*) are briefly reviewed. Of 64 patients with tropical eosinophilia at the School of Tropical Medicine, Calcutta, three reacted positively to skin tests with both histoplasmin and tuberculin, while 38 responded negatively to coccidioidin and 57 to blastomycin.

783. Horta (J. da S.), Villar (T. G.), & Marques (G. J.). **A case of histoplasmosis in Portugal diagnosed by bronchoscopic biopsy.**—*Doc. Med. geogr. trop.*, 5, 4, pp. 347–352, 7 figs., 1953.

A case of histoplasmosis (*Histoplasma capsulatum*), involving the trachea of a 64-year-old road-mender, is reported from the Faculty of Medicine, Lisbon. This is the second record of the disease for Portugal, the first dating from 1943 (*Lisboa med.*, 20, p. 403).

784. Jakob (A.) & Krisch (E.). **Über die Histoplasmose mit besonderer Berücksichtigung der Lungenhistoplasmose.** [On histoplasmosis with special reference to pulmonary histoplasmosis.]—*Fortschr. Röntgenstr.*, 78, 3, pp. 287–290, 4 figs., 1953. [English, French, and Spanish summaries.]

This is an excerpt from a lecture delivered before the Bavarian Röntgen Society at Munich in 1952, describing the pathological-anatomical changes associated with histoplasmosis (*Histoplasma capsulatum*) and the accompanying roentgenological alterations in the lung.

785. Campins (H.) & Scharyj (M.). **Comprobación de la histoplasmosis en Venezuela.** [Confirmation of histoplasmosis in Venezuela.]—*Gac. méd. Carácas*, 61, 1–2, pp. 67–75, 5 figs., 1953.

An account is given of a fatal case of acute histoplasmosis in a 34-year-old Venezuelan half-breed in Lara State, Venezuela. *Histoplasma capsulatum* [2, No. 87] was isolated from the small intestine, mesenteric glands, and liver.

The absence of pulmonary lesions indicated that the organism must have entered by way of the digestive tract. The disease was complicated by various other conditions, notably fibrinose peritonitis, fatty degeneration of the myocardium, liver, and kidneys, peritoneal and pleural skin lesions, and malnutrition.

786. Floch (H.). **Discussions sur l'histoplasmose de Darling au sujet de recherches pratiquées en Guyane française.** [Discussions on Darling's histoplasmosis in connexion with researches undertaken in French Guiana.]—*Bull. Soc. Pat. exot.*, 46, 3, pp. 288–290, 1953.

This is a preliminary note on the author's inquiry into the occurrence of histoplasmosis (*Histoplasma capsulatum*) in French Guiana, the full account of which has already appeared [2, No. 322].

787. Pardo (O. A.), Pardo Castello (V.), & Tucker (H. A.). **Histoplasmin, coccidioidin and tuberculin sensitivities in Cuba ; a study of 195 patients.**—*Bol. Ofic. Sanit. panamer.*, 32, 6, pp. 527–530, 1952. [Spanish summary.]

Tests were carried out at the Calixto García Hospital, Habana, Cuba, from January, 1950, to April, 1951, to determine the reaction of 195 patients to intradermal histoplasmin, coccidioidin, and tuberculin injections. The first two antigens were employed at dilutions of 1 in 100 and the last-named at a 1 in 10 dilution of second-strength PPD (0·0005 mg.). At the time of the test no cases of histoplasmosis (*Histoplasma capsulatum*) had been recognized in Cuba [2, No. 81], but two have since been reported. Forty patients reacted to histoplasmin, 12 of whom were tuberculin-negative; 70 per cent. were tuberculin-sensitive, and four reacted to coccidioidin.

788. Menges (R. W.), Furcolow (M. L.), & Hinton (Agnes). **The role of animals in the epidemiology of histoplasmosis.**—*Amer. J. Hyg.*, 59, 1, pp. 113–118, 1954.

Further studies on the function of animals in the epidemiology of histoplasmosis (*Histoplasma capsulatum*) [1, No. 2450] were based on material collected during surveys in Kansas, Missouri, Iowa, and Illinois. Tissues from a total of 787 animals were cultured, of which 18 (2 per cent.) yielded the pathogen; they comprised nine dogs, four raccoons, three rats, one cat, and one skunk. Sera from 485 animals were tested by complement-fixation with histoplasmin, with positive results in 10 (2 per cent.), viz. five dogs, three rats, one cow, and one lamb. These data are considered to support the theory that man and animals contract the disease from a common source.

789. Menges (R. W.), McClellan (J. T.), & Ausherman (R. J.). **Canine histoplasmosis and blastomycosis in Lexington, Kentucky.**—*J. Amer. vet. med. Ass.*, 124, 924, pp. 202–207, 1 fig., 1 map, 1954.

Epizootics of canine histoplasmosis (*Histoplasma capsulatum*) [2, No. 333] occurring at Lexington, Kentucky, from 1947 to 1953 are reported, the total of 34 cases including 13 proved. During the same period there were seven cases (four proved) of canine blastomycosis (*Blastomyces dermatitidis*), three of human blastomycosis, and one of human histoplasmosis (all proved).

790. Schaefer (J.) & Saslaw (S.). **Some factors affecting resistance of mice to experimental histoplasmosis.**—*Proc. Soc. exp. Biol., N.Y.*, 85, 2, pp. 223–225, 1954.

At the College of Medicine, Ohio State University, white Swiss male mice 8 to 12 weeks old were more susceptible to intraperitoneal inoculation with the yeast phase of *Histoplasma capsulatum* [2, Nos. 310, 539] than those of 14

weeks and upwards. Mice surviving previous sublethal infections showed enhanced resistance to subsequent challenge doses six weeks later [2, No. 332]. Vaccination with heat-killed yeast phase antigens produced a decrease in the number of fatal infections following massive challenge doses six weeks later.

791. Campbell (Charlotte C.), Hodges (Elizabeth P.), & Hill (Grace B.). **Therapeutic effect of nystatin (fungicidin) in Mice experimentally infected with Histoplasma capsulatum.**—*Antibiot. & Chemother.*, 4, 4, pp. 406–410, 1954.

At the Walter Reed Army Medical Center, Washington, D.C., mortality in mice inoculated with *Histoplasma capsulatum* was substantially reduced by the subcutaneous administration of nystatin (fungicidin) [2, No. 209] at a dosage of 1 mg. at the time of infection and twice daily for three days thereafter. Even when therapy was delayed for seven days and lower concentrations (0·75 and 0·5 mg.) were used there was a survival rate of 35 to 60 per cent. compared with 11·8 for the untreated controls.

792. Emmons (C. W.) & Haberman (R. T.). **Ascosin in the treatment of experimental histoplasmosis in Mice.**—*Antibiot. & Chemother.*, 3, 12, pp. 1204–1210, 1 fig., 5 graphs, 1953.

A new antibiotic known as ascosin, isolated from *Streptomyces canescens* (*Antibiot. & Chemother.*, 2, p. 472, 1952), proved to be effective in laboratories of the National Institute of Health, Bethesda, Maryland, in extending the survival period of mice experimentally infected with histoplasmosis (*Histoplasma capsulatum*) and reducing the numbers of viable cells of the fungus in their spleens and livers, but the therapeutic dose approached the toxic level.

793. De Vriese (J.). **Premiers résultats de réactions cutanées à l'histoplasmine au Congo Belge.** [First results of cutaneous reactions to histoplasmin in the Belgian Congo.]—*Ann. Soc. belge Méd. trop.*, 33, 3, pp. 211–213, 1953. [Flemish summary.]

Of 74 natives injected cutaneously with histoplasmin in the Tshela area, Belgian Congo, eight (10·8 per cent.) reacted positively. Histoplasmosis (*Histoplasma duboisii*) [2, No. 334] was diagnosed recently in a European patient in this locality. Although the number of subjects tested was too low to permit a relation to be established between age and sex in those reacting positively, the percentage was sufficiently high to justify the conclusion that the disease exists among the native population of Mayumba.

794. Dubois (A.) & Vanbreuseghem (R.). **Inoculation au Hamster, Cricetus auratus, des cultures d'Histoplasma duboisii Vanbreuseghem 1952.** [Inoculation of the Hamster, *Cricetus auratus*, with cultures of *Histoplasma duboisii* Vanbreuseghem 1952.]—*Ann. Soc. belge Méd. trop.*, 33, 5, pp. 383–387, 1953. [Flemish summary.]

At the Institute of Tropical Medicine, Antwerp, *Histoplasma duboisii* was successfully inoculated into golden hamsters (*Cricetus* [*Mesocricetus*] *auratus*) by the intraperitoneal route [cf. 2, No. 91]. The constant involvement of the thoracic ganglia suggests the rapid diffusion of the fungus through the lymphatic system.

795. Vanbreuseghem (R.). **Histoplasma duboisii and African histoplasmosis.**—*Mycologia*, 45, 6, pp. 803–816, 2 pl., 2 figs., 1953.

The results are described of a study of a new strain of *Histoplasma duboisii* [see preceding entries] isolated from a male of Belgian origin who had returned

to Belgium after six years' agricultural employment in the central part of the Belgian Congo. The parasitic cells in the patient's lymph nodes were ovoid, measured 13·5 by 10 μ, and had a thick, double-contoured capsule 1 to 2 μ. In culture the vegetative hyphae, about 2·5 μ in breadth, septate, with colourless walls, grow towards the periphery and are slightly wavy. The distance between two septa is 30 μ. Microconidia grow on both sides of the hyphae; they are pedunculate, round, and about 2·5 μ in diameter. The hyphae from which they arise are divided into short sections and the microconidia are borne close to one another or on opposite sides in rows of 20 to 30. The macroconidia are smooth or covered with very irregular spines (echinulated chlamydospores), measuring about 13 μ in diameter at maturity. They are circular and a slender sporophore, 1 to 2 μ in diameter and, up to 30 μ or more in length, connects them with the mother hyphae. The smooth macroconidia have a thick, double-contoured membrane. Like the macroconidia, the chlamydospores are furnished with a thick, double-contoured membrane, but whereas the smooth, regular internal wall is scarcely perceptible, the outer one is covered with irregular, spinous overgrowths measuring 2 by 2 μ. It proved impracticable to transmit *H. duboisii* to animals from parasitized human cells, but inoculation of the saprophytic form into guinea-pigs was readily effected by the testicular route.

H. duboisii presents many specific features compared with *H. capsulatum*. Thus, large forms have been found in man and in guinea-pigs which have not been seen in the case of *H. capsulatum*. In view of this morphological aspect the new parasite has been named *H. c.* form *duboisii*. In guinea-pigs a parasitic form, apparently identical with that of *H. capsulatum*, precedes the appearance of the *duboisii* form and is referred to as the *capsulatum* form. There is every reason to believe that the *duboisii* form evolves from the *capsulatum* form. The *capsulatum* elements, the first to appear in the testes of guinea-pigs inoculated with *H. duboisii*, enlarge progressively and finally assume the typical *duboisii* aspect. Moreover, cultures of *H. duboisii* produce no pyriform chlamydospores such as occur in *H. capsulatum*.

796. Champeau (M. F.). **À propos des mycétomes à grains noirs de l'A.O.F. (Signification du grain).** [On the mycetomata with black grains from French West Africa. (Significance of the grain).]—*Ann. Parasit. hum. comp.*, 29, 1–2, pp. 135–147, 5 pl., 1954.

An account is given of the author's anatomical and pathological study of an amputated right foot from a native of Senegal aged 40 and an amputated left foot from a 30-year-old female Senegalese, each presenting a case of mycetoma with black grains. The evidence showed that the [unspecified] fungus causing the condition had in each case developed in the granulation tissue adjacent to the fistular fluid. Melanin production was stimulated and the tissues became impregnated and rendered unsuitable for mycelial growth. At this stage the black grain is in process of formation and its morphology is to a large extent conditioned by the tissue utilized by the fungus. Grain formation results from the action of the fungus upon the surrounding tissue. Two different fungi, both secreting melanin and producing similar inflammatory reactions in the local tissues, may give rise to grains of the same structure, and conversely.

797. Englander (G. S.). **Mycetoma caused by Rhizopus.**—*Arch. Derm. Syph., Chicago*, 68, 6, p. 741, 1953.

A six-year-old boy admitted to the Department of Dermatology, Cincinnati General Hospital, Ohio, was suffering from a refractory skin lesion of the

axillary border and chest wall of three years' duration which had previously been diagnosed as granuloma annulare. A culture from the skin surface yielded *Rhizopus* sp. and extensive, non-septate mycelium was observed microscopically throughout the lesion, suggesting that the fungus was a secondary invader in a true case of granuloma annulare.

798. Schapiro (M. M.). **Mycetomatosis.**—*Docum. Med. geogr. trop.*, 6, 2, pp. 106–111, 3 figs., 1954.

Two presumptive cases of mycetomatosis (Madura foot) are reported from the General Hospital San Felipe, Tegucigalpa, D.C., Honduras, one in a 45-year-old female domestic and the other in a 53-year-old Indian labourer. The pathological reports added confusion to the clinical diagnosis, but the available evidence seems to point to mycetomatous lesions as the cause of the condition.

799. Ansel (M.) & Gauthier (Cécile). **Classification des levures des genres Candida et Mycoderma. Caractères morphologiques et physiologiques.** [The classification of yeasts of the genera *Candida* and *Mycoderma*. Morphological and physiological characters.]—*Ann. Parasit. hum. comp.*, 29, 1–2, pp. 148–162, 1954.

A study of the morphological and physiological characters of *Candida* and *Mycoderma* demonstrated that in a standard liquid medium *M.* spp. invariably form a pellicle; in this genus, assimilation can always take place by means of oxidation. To *Mycoderma* should be assigned the following species, all of which assimilate glucose: *M. brumpti*, *M. vini*, *M. curvata*, *M. humicola*, *M. mesenterica*, *M. lipolytica*, *M. rugosa*, and *M. zeylanoides*. There are four species of *Brettanomyces*, all of which ferment glucose: *B. anomalus* (ferments lactose also), *B. bruxellensis* and *B. lambicus* (saccharose and maltose), and *B. clausseni* (lactose, saccharose, and one-third maltose and raffinose). A table is given showing the anascosporous and blastosporous yeasts, constituting the Blastosporales or Torulopsidales (Buchwald 1939), including besides those already mentioned *Trigonopsis*, *Klöckera*, *Pityrosporum*, *Rhodotorula*, *Torulopsis*, and *Cryptococcus*.

Langeron's classification of *Candida* into seven groups is rejected on the grounds of insufficient attention to the zymatic equipment of the genus and incompleteness, being limited to pathogenic species and those found in human lesions. The following new tabulation is accordingly proposed: *C. pseudotropicalis* and *C. intermedia*, fermenting glucose, lactose, saccharose, and one-third raffinose; *C. guilliermondi* (glucose, raffinose, and saccharose); *C. tropicalis* (glucose, saccharose, and maltose); *C. albicans* (glucose and maltose); *C. krusei* (glucose); and *C. japonica* (glucose—or weak, no pellicle). The 23 species within the different groups are also listed.

800. Drouhet (E.) & Couteau (Mlle M.). **Sur la détermination des Candida. Études des caractères morphologiques et physiologiques de 78 souches isolées de prélèvements pathologiques.** [On the determination of *Candida* species. Study of the morphological and physiological characters of 78 strains isolated from pathological samples.]—*Ann. Inst. Pasteur*, 86, 5, pp. 602–617, 1 pl., 1 fig., 1954.

Of 78 strains of *Candida* isolated from human pathological material studied at the Institut Pasteur, Paris, 45 were assigned on a morphological and physiological basis to *C. albicans*, 10 to *C. tropicalis*, eight to *C. pseudotropicalis* six to *C. krusei*, three to *C. guilliermondi*, and one each to *C. parakrusei* and *C. pelliculosa*.

Typical chlamydospores of *C. albicans* developed in most of the strains after

culturing twice in succession for three days on potato-carrot agar at 25° C. A new method of culture on a 10 per cent. peptone medium in an atmosphere containing 10 to 20 per cent. carbon dioxide proved useful for the identification of strains producing chlamydospores with difficulty.

All the strains of *C. albicans* and half those of *C. tropicalis* were lethal to rabbits within three to seven days after inoculation, all the other species being non-pathogenic.

801. Fleury (C.). **Milieu pour l'isolement et la culture de champignons microscopiques, agents de mycoses.** [A medium for the isolation and culture of microsopic fungi inciting mycoses.]—*Arch. Sci. Genève*, 5, 5, pp. 319–323, 1952.

Very satisfactory results have been obtained at the Institute of Hygiene, University of Geneva, in the isolation and culture of *Candida albicans* and related yeasts on a medium consisting of 20 ml. each of meat bouillon and grape wort at pH 7, 60 ml. physiological water, and 1 ml. blood (preferably human) per 10 ml. of substratum, liquefied and chilled at 45° C., with the addition of antibiotics, e.g. penicillin and streptomycin, at 5,000 units per ml. blood, for the exclusion of contaminants.

802. Nickerson (W. J.) & Mankowski (Z.). **Role of nutrition in the maintenance of the yeast-shape in Candida.**—*Amer. J. Bot.*, 40, 8, pp. 584–592, 18 figs., 1953.

In a co-operative study between the Department of Microbiology, Rutgers University, New Brunswick, New Jersey, and the Arnold Biological Laboratory, Brown University, Providence, Rhode Island, yeasts of the genus *Candida*, characterized by their potential for filamentation, developed exclusively as budding cells on a synthetic minimal growth medium containing glucose as the carbon source [2, No. 341]. Cells showing multiple bipolar budding occurred abundantly in cultures on a polysaccharide medium supplemented by M/100 cysteine. Chlamydospores were formed under conditions providing an inhibition of cellular division and minimum support for cellular growth. The conversion of yeast cells into enlarged, refractile chlamydospores was associated with the *intra vitam* accumulation of the acid dye trypan blue. Aminopterin, a folic acid analogue, also possessed marked ability to induce chlamydospore formation.

803. Grasset (E.) & Fleury (C.). **Conceptions actuelles sur l'epidémiologie des mycoses et leur rôle en pathologie pulmonaire. Facteurs influençant la fréquence des moniliases observées indépendamment ou consécutivement à l'emploi des antibiotiques.** [Present-day concepts of the epidemiology of mycoses and their part in pulmonary pathology. Factors influencing the frequency of moniliasis observed independently or as a sequel to the use of antibiotics.]—*Praxis*, 42, 15, pp. 285–292, 2 figs., 1953.

The authors' experience in Switzerland, supplemented by important contributions to the relevant literature, forms the basis of this leading article on pulmonary mycoses, with special reference to moniliasis (*Candida albicans*) and its stimulation by antibiotic therapy.

804. Scherr (G. H.). **The use of yeast cells to enhance the virulence of Candida albicans for Mice.**—*Mycopathologia*, 6, 4, pp. 260–289, 2 figs., 1953.

Studies at the Creighton University School of Medicine and St. Joseph's Hospital, Omaha, Nebraska, demonstrated that one or more factors are present in cells of *Saccharomyces cerevisiae* and the yeast-phase cells of *Candida albicans* 171D which increase the dissemination of systemic moniliasis in mice inoculated intraperitoneally. This factor is not destroyed by treatment with

0·5 per cent. formalin and its activity could not be demonstrated apart from the intact cell. Thus, a yeast-cell extract did not affect the progress of a *C. albicans* infection in mice. From a practical standpoint, expeditious induction of systemic infection by *C. albicans* in mice may prove helpful in the evaluation of therapeutic agents.

805. Nikolowski (W.). **Über Hauterscheinungsbilder der Soormykosen und deren Beziehungen zu den Antibiotika.** [On the epidermal manifestations of thrush mycoses and their relations to antibiotics.]—*Dtsch. med. Wschr.*, 78, 14, pp. 553–556, 4 figs. (on p. 548), 1953.

Of recent years at the University Skin Clinic, Tübingen, Germany, the author has observed qualitative and quantitative anomalies in the symptomatology of epidermal infections caused by *Candida albicans*. They comprise, on the one side, asymmetrically scattered, generalized foci produced by multiple successive reinfections, and on the other symmetrical, germ-free secondary reactions developing spasmodically under the aspect of the so-called seborrhoeic eczema.

These developments are discussed in the light of some contributions to the relevant literature and in relation to the problem of antibiotic therapy.

806. Rossier (P. H.) & Wegmann (T.). **Pilzerkrankungen als Komplikation antibiotischer Behandlung unter besonderer Berücksichtigung der Lungenmykosen.** [Fungal diseases as a complication of antibiotic therapy, with special reference to pulmonary mycoses.]—*Wien. med. Wschr.*, 103, 19–20, pp. 358–360, 3 figs., 1 graph, 1953.

Two further cases are reported from the Medical Polyclinic of the University of Zürich, Switzerland, illustrating the tendency of antibiotic therapy to stimulate unbalanced fungal growth [cf. 2, No. 349], sometimes with disastrous consequences. In one of these cases *Candida pseudotropicalis* was associated with the respiratory moniliasis developing in a 22-year-old male patient following the administration of penicillin, streptomycin, aureomycin, and terramycin.

The second patient, a 32-year-old male who developed monilial thrush [not further identified] as a sequel to treatment with terramycin, penicillin, and streptomycin, recovered after the administration of paraben (parahydroxibenzoic acid ester) at a dosage of 0·2 gm. four times daily. In three days the fungal elements had completely disappeared from the sputum and faeces.

807. McGovern (J. J.), Parrott (R. H.), Emmons (C. W.), Ross (S.), Burke (F. G.), & Rice (E. C.). **The effect of aureomycin and chloramphenicol on the fungal and bacterial flora of children.**—*New Engl. J. Med.*, 248, 10, pp. 397–403, 1953.

One hundred normal children between the ages of one month and 12 years were examined at Washington, D.C., for the presence of *Candida albicans* [2, No. 109] in the gastro-intestinal tract. The organism was present in the mouths of 14 per cent. of the children and in the recta of 6 per cent. Laboratory and clinical observations indicated that before treatment with aureomycin [2, No. 355], given orally to 21 of the children for eight days, and chloramphenicol [loc. cit.], administered intramuscularly or orally to 24 for 10 or 14 days, *C. albicans* was observed in the gastro-intestinal tract of 17 per cent., rising to 33 per cent. at the end of the treatment. The average number of *C. albicans* colonies increased from three to eight days after treatment. The Gram-negative and Gram-positive organisms in the tract decreased, while fungi, including yeasts and other *C.* spp. increased.

808. Alvarez Bravo (A.) & González Ramos (M.). **Moniliasis vaginal consecutiva al uso terapéutico de antibióticos.** [Vaginal moniliasis following the therapeutic use of antibiotics.]—*Obstet. y Ginec. lat.-amer.*, 10, 7, pp. 295–299, 1952. [Portuguese, French, English, and German summaries.]

Studies in Mexico revealed an increase in the incidence of monilial vulvovaginitis [*Candida* spp.; 2, No. 106] from 2·4 to 24·6 per cent. in two series of cases taken at random, the first up to April, 1950, and the second from January to August, 1951. This marked increase is attributed to the use of penicillin, streptomycin, aureomycin [2, No. 109], chloramphenicol, and terramycin, applied alone or together. Of 172 random cases of leucorrhoea, *Monilia* [*Candida*] was found in 34, 31 of which had recently received antibiotics, while only one was a pregnancy case. Of 62 cases of gonorrhoea with no *Candida* detectable by microscopy or culture, 51 received aureomycin, chloramphenicol, or terramycin and 14 (27·4 per cent.) developed *Candida* as a result. It is concluded that the use of antibiotics gives rise to an environment favourable to the development of *Candida*.

809. Amlie (R.). **Moniliase. ('Essentielle Lymphocytophthise' Glanzmann et Riniker).** [Moniliasis. ('Essential lymphopenia' Glanzmann & Riniker).]—*Ann. paediatr.*, 179, 5, pp. 316–320, 1952. [German and English summaries.]

From the Children's Clinic of the State Hospital, Oslo, Norway, the author reports a case of moniliasis (*Candida albicans*) in a 3½-month-old female infant. The administration of aureomycin in the final stages of the illness is thought to have undoubtedly contributed to its fatal termination. The toxins of the fungus, which cannot be detected in histological sections embedded in paraffin, appear to induce a rapid decrease of lymphocytes in the blood stream.

810. Jiménez Díaz (J.). **Moniliasis urinaria tras la terapéutica con antibióticos.** [Urinary moniliasis during antibiotic therapy.]—*Rev. clín. esp.*, 48, 2, pp. 97–98, 1953.

A case of urinary moniliasis (*Monilia* [*Candida*] *albicans*) [see next entry] in a two-year-old girl undergoing antibiotic therapy with penicillin, streptomycin, and terramycin is reported from Cáceres, Spain.

811. Brown (C.), Propp (S.), Guest (C. M.), Beebe (R. T.), & Early (L.). **Fatal fungous infections complicating antibiotic therapy.**—*J. Amer. med. Ass.*, 152, 3, pp. 206–207, 3 figs., 1953.

Three cases of fatal infection, two by *Candida albicans* [see preceding entry] and one by *C.* sp., are reported in patients (two males aged 47 and 50 and a 66-year-old female) receiving broad-spectrum antibiotic therapy at the Albany Hospital, New York.

The paper is followed by an addendum on two similar cases, one associated with *C. albicans* and the other with *C. tropicalis*.

812. John (S.). **Beitrag zur Klinik der primären Moniliasis (Lungenmykose).** [A contribution to the clinical aspects of primary moniliasis (pulmonary mycosis).]—*Münch. med. Wschr.*, 95, 16, pp. 477–480, 2 figs., 1953.

In connexion with a case of primary pulmonary moniliasis (*Candida albicans*) in a 37-year-old male patient at the St. Georg Hospital, Hamburg, the author summarizes essential information on various clinical aspects of the disease, including prevalence, diagnosis, serological studies, and therapy, with pertinent bibliographical references.

813. Büscher (Liselotte), Gleiss (J.), Grün (L.), & Leppelmann (E.). **Beitrag zum Frühgeburtenproblem der Gegenwart. VI. Blastomykose und interstitielle, plasmacellulare Pneumonie der Frühgeburt.** [A contribution to the present-day problems of premature birth. VI. Blastomycosis and interstitial, plasma-cell pneumonia in the premature infant.]—*Z. Kinderheilk.*, 73, 2, pp. 217–228, 2 graphs, 1953.

At the Medical Academy, Düsseldorf, Germany, the authors found no connexion between the presence of blastomycetes (thrush) [*Candida albicans*] in nasal and pharyngeal smears, gastric juices, and faecal streak preparations and the development of interstitial, plasma-cell pneumonia in premature infants.

814. Carpenter (A. M.), Hadden (J. C.), & Spino (M. D.). **Incidence of skin-test reactions among children in the Pittsburgh district. iii. Moniliin.**—*Amer. J. Dis. Child.*, 83, 5, pp. 603–607, 1952.

Skin tests with moniliin prepared from *Candida albicans*, were carried out at Pittsburgh, Pennsylvania, on 100 patients during the winter and 103 during the summer. In the first group there were 25 positive reactors and nine showing equivocal reactions; in the second 12 were positive and 13 equivocal. Cultures of *C.* spp. were obtained from five positive and nine negative reactors. These data are not considered to justify the use of the antigen as a diagnostic procedure.

815. Caputi (F.). **Ricerche dell'antigene di Forssmann in un Blastomicete e nei piu' comuni antibiotici.** [Researches on Forssmann's antigen in a blastomycete and in the more common antibiotics.]—*Boll. Soc. ital. Biol. sper.*, 28, 11, pp. 1772–1773, 1952.

At the Institute of Hygiene and Microbiology, University of Bari, Italy, two rabbits each received at weekly intervals four endovenous injections of 2 ml. of a moderately dense suspension of *Mycotorula* [*Candida*] *albicans* [2, Nos. 102–104] in physiological solution. Seven days after the final inoculation the haematolytic potency of the serum was found to be unaltered, and it is concluded, therefore, that Forssmann's antigen is not present in *C. albicans*.

816. Degand (J.). **Cas de bronchites ou de bronchopneumonies par infections ou surinfections mycosiques.** [Cases of bronchitis or broncho-pneumonia caused by mycotic infections or reinfections.]—*Scalpel, Liége*, 106, 13, pp. 335–340, 1953.

After expressing the opinion that most parasitic infections of the respiratory apparatus are due to yeast-like fungi and describing the genera *Candida* and *Torula* and their pathogenic effects, the author gives clinical details of a case of broncho-pneumonia in a 73-year-old female patient, whose brick-red sputum contained a red species of *Rhodotorula* (? *R. bronchialis*), to which he attributes the condition. In another case of bronchitis in an elderly patient, *C. albicans* was abundantly present in the sputum. It is concluded that bronchomycoses are by no means uncommon, especially in the elderly; *R.* spp. appear to behave as true parasites, whereas *C.* spp. are generally saprophytic.

817. Ehrmann (G.) & Wiedmann (A.). **Tierexperimentelle Untersuchungen über Candida albicans-infektion der Nägel.** [Experimental studies on animals with *Candida albicans* infection of the nails.]—*Hautarzt*, 3, 5, pp. 207–211, 4 figs., 1952.

The results of inoculation experiments on the nails of rats and guinea-pigs with cultures of *Candida albicans* isolated from human cases of onychomycosis are reported from the University Clinic for Skin Diseases, Vienna. The changes thus induced were closely analogous with those occurring in human

onychomycosis and the fungus isolated from the diseased animal tissues proved to be identical with the original culture used as inoculum.

818. Basiliou (B.). **Moniliase intestinale, étude clinique et thérapeutique ; observations faites au Liban.** [Intestinal moniliasis, a clinical and therapeutical study; observations made in the Lebanon.]—*J. méd. liban., 1953*, pp. 105–116, 1953.

After discussing the prevalence of chronic diarrhoea of the enteritis type in the Lebanon, accompanied by the presence of *Oidium* [*Candida*] *albicans* in the stools, the author gives clinical details of three cases, two in males aged 30 and 24, respectively, and the third in a 26-year-old female.

819. Hurd (R. C.) & Drake (C. H.). **Candida albicans infections in actively and passively immunized animals.**—*Mycopathologia*, 6, 4, pp. 290–297, 1953. [French summary.]

An account is given of investigations carried out at the Department of Bacteriology, State College of Washington, to study the effect of antiserum on the course of moniliasis in rabbits inoculated with *Candida albicans*. Passively and actively immunized animals, as well as normal controls, were given minimum lethal doses of a suspension of *C. albicans* and comparisons were made between tissue sections of the different groups.

The resultant data indicated that immunization was ineffective and possibly deleterious. The antiserum seemed to exert some effect on the morphology of the fungus, as expressed by the development of multibranched mycelium, thick-walled, distorted blastospores, occasionally heavy packing of the organism, and the presence of 'sulphur granules', but little or none on tissue reactions.

820. Jonsen (T.), Thjøtta (T.), & Rasch (S.). **Electrophoretic studies of yeast-antisera.**—*Acta path. microbiol. scand.*, 33, 3, pp. 271–277, 7 graphs, 1953.

Further data are presented from the Bacteriological Institute, Oslo, Norway, on the electrophoretic patterns of sera from rabbits containing antibodies against *Candida albicans*, *C. pseudotropicalis*, *C. tenuis*, *C. catenulata*, and *C. robusta*.

821. Kasliwal (R. M.) & Andleigh (H. S.). **An interesting case of broncho-pulmonary mycosis.**—*Indian J. med. Sci.*, 8, 2, pp. 95–97, 4 figs., 1954.

At the S.M.S. Medical College, Jaipur, Rajasthan, India, *Candida albicans* was isolated in pure culture from the sputum and bronchoscopic aspirate of a 50-year-old male Hindu suffering from chronic bronchitis who had previously been engaged in the weighing of raw cotton. A partial improvement in the condition was effected by large doses of penicillin and leocillin, but a full course of potassium iodide was necessary to achieve a complete cure.

822. Niel (K.). **Zur Klinik der Candidainfektionen.** [On the clinical aspect of *Candida* infections.]—*Klin. Med., Wien.*, 8, 2, pp. 49–54, 1953.

The clinical course of two cases of septic endocarditis is reported from the Municipal General Hospital, Vienna. *Candida albicans* was isolated from the blood and cardiac valves of one patient, a 41-year-old male, and *C. guilliermondi* from the other, a 60-year-old female [see next entry].

823. Kohlmeier (W.). **Zur Kenntis der Candidainfektionen.** [On the knowledge of *Candida* infections.]—*Klin. Med., Wien.*, 8, 2, pp. 54–61, 1 fig., 1953.

Particulars are given of the post-mortem findings in the two cases of septic endocarditis associated, respectively, with *Candida albicans* and *C. guillier-*

mondi mentioned in the previous entry, followed by a discussion of 10 others reported in the relevant literature.

824. Janke (R. G.). **Studien über die Antibiotika-Wirkung bei Sproßpilzen.** [Studies on the effect of antibiotics on yeast fungi.]—*Zbl. Bakt.*, Abt. 1 (*Orig.*), 160, 7–8, pp. 628–636, 2 graphs, 1954.

In experiments at the University Skin Clinic, Vienna, the recognized increase in the growth of yeasts, represented by *Candida albicans* and the red *Torulopsis* [*T. rubra*], following treatment with penicillin, aureomycin, or terramycin, was shown to be a consequence of the direct stimulus to budding afforded by the antibiotics, irrespective of the indirect promotion of development resulting from the suppression of bacterial competitors.

825. Ferraris, (F.). **Azione antibiotica di 'Oospora virescens' sui funghi in medicina.** [Antibiotic action of *Oospora virescens* on fungi in medicine.]—*G. Batt. Immunol.*, 45, 3–4, pp. 108–114, 1 fig., 1953. [French, English, and German summaries.]

In *in vitro* experiments at the Institute of Plant Pathology of Turin University, Italy, culture filtrates of *Oospora virescens* exerted an antibiotic action on *Penicillium crustaceum*, *Ctenomyces serratus*, *Candida albicans*, *Microsporum audouini*, *Epidermophyton floccosum*, *Achorion* [*Trichophyton*] *schoenleini*, and *T. tonsurans*.

826. Siegel (M.). **Fungistatic activity of methylparaben and propylparaben.**—*Antibiotics*, 3, 5, pp. 478–480, 1953.

The fungistatic activity of methyl and propyl parahydroxybenzoates was determined against *Candida albicans*, *Trichophyton rubrum*, *T. mentagrophytes*, *Microsporum audouini*, *Geotrichum asteroides*, and *Cryptococcus neoformans* at the Ethical Research Laboratories, Warren, Pennsylvania, in order to justify the joint use of these compounds with antibiotics as a means of suppressing the overgrowth of fungi liable to occur on prolonged use of antibiotics alone. Propylparaben was effective at concentrations of 25 to 150 mgm. per ml., methylparaben at 150 to 350 mgm., and a combination of the two at 150 to 300 mgm.; the toxicity of the compounds was of a very low order and did not interfere with the action of the antibiotic. The addition of serum to the medium slightly reduced the efficiency of the compounds.

827. Magara (M.), Yokouti (E.), Senda (T.), & Amino (E.). **The action of a new antibiotic, trichomycin, upon Trichomonas vaginalis, Candida albicans, and anaerobic bacteria.**—*Antibiot. & Chemother.*, 4, 4, pp. 433–438, 1 graph, 1954.

At the Nippon Medical College, Tokyo, trichomycin (*J. Antibiot.*, 10, p. 564, 1950; *Jap. J. exp. Med.*, 22, p. 505, 1952) exerted a powerful inhibitory action on cultures of *Candida albicans* on Sabouraud's agar and was also highly effective in the clinical treatment of vulvovaginal and vaginal moniliasis (*C.* spp.).

828. Mankowski (Z. T.) & Diller (Irene C.). **Granule formation in animal tissues by Candida albicans.**—*Mycopathologia*, 6, 4, pp. 298–300, 3 pl., 1953.

In studies at the Institute for Cancer Research and the Lankenau Hospital Research Institute, Philadelphia, on chronic changes induced by *Candida albicans* in experimental animals granule formation was observed in the internal organs of two out of several hundred animals. In both cases the duration of infection was three to four weeks. The largest granules observed occurred in a mouse injected with *C. albicans* in saline solution, which died

three weeks later. The configurations resembled a hollow cylinder closed at each end and were therefore ring-shaped in cross-section.

829. Mozer (J. J.), Secrétan (P.), & Fleury (C.). **Moniliase pulmonaire.** [Pulmonary moniliasis.]—*Helv. med. Acta*, 19, 4–5, pp. 495–500, 2 figs., 1 graph, 1952.

In 1951 a 71-year-old female patient at the Therapeutic Clinic, Geneva, Switzerland, was treated with penicillin, streptomycin, and elkosin for the relief of a feverish condition and thoracic pain in the right side. The sputum contained an abundance of yeasts. A year after her apparent recovery the patient was readmitted to the hospital with severe respiratory symptoms, including a broncho-pneumonic focus at the base of the left lung. The sputum harboured a species of *Candida* which proved to be pathogenic to rabbits. A cure was effected by means of intravenous injections of potassium iodide.

830. Rey (J. C.) & Natin (I.). **Moniliasis pulmonar.** [Pulmonary moniliasis.]—*Prensa méd. argent.*, 40, 35, pp. 2306–2312, 4 figs., 1953.

This is a detailed report from the Polyclinic, Buenos Aires, Argentina, of the clinical, radiological, and anatomo-pathological aspects of a case of pulmonary moniliasis, associated with the presence in tissue sections of Gram-positive, yeast-like organisms resembling *Monilia* [*Candida*], in a 47-year-old shoemaker.

831. Saggese (V.) & Gelli (G.). **Contributo alla conoscenza delle micosi polmonari nel bambino.** [Contribution to the knowledge of the pulmonary mycoses in the child.]—*Riv. clin. pediat.*, 51, 3, pp. 582–603, 8 figs., 1953. [French and English summaries.]

Following a review of the relevant literature, two cases of pulmonary mycosis are reported from the Pediatric Clinic of the University of Pisa, Italy. Both patients were boys, one nine and the other two years old, the causal organism in the former being *Candida albicans* and in the latter *C. parapsilosis*. The diagnosis was confirmed by culture, immunological experiments, and experimental researches on guinea-pigs. The results of anatomo-histological studies on rabbits inoculated with *C. parapsilosis* are described. Both children responded favourably to streptomycin therapy. The results of *in vitro* tests with the drug on both species are presented.

832. Skogrand (A.). **Broncho-pulmonal moniliasis.** [Broncho-pulmonary moniliasis.]—*Nord. Med.*, 51, 8, pp. 276–278, 1 fig., 1954. [English summary.]

The autopsy at the State Hospital, Oslo, Norway, on a one-year-old boy suffering from a form of broncho-pneumonia which proved resistant to antibiotic therapy revealed foci of infection by *Candida albicans* in both lungs. The fungus was isolated in pure culture from the diseased tissues.

833. Neuhauser (Irene) with the assistance of Gustus (E. L.). **Successful treatment of intestinal moniliasis with fatty acid-resin complex.**—*Arch. intern. Med.*, 93, 1, pp. 53–60, 1 fig., 1954.

From the University of Illinois School of Medicine, Chicago, a new treatment for intestinal moniliasis (*Candida albicans*) is described, consisting of saturated complexes of an acid-absorbing resin and certain fatty acids, especially caprylic, with its close homologues, and undecylenic, of which the former appeared to be definitely superior to the latter. The results of *in vitro* tests with the complexes on Sabouraud's glucose agar cultures of the fungus are presented and three severe cases of the disease reported (all in females, aged 40, 50, and

41) in which this mode of therapy was successfully applied without untoward side-effects.

834. Vogel (R. A.). **The polysaccharides of Candida albicans.**—*Proc. Soc. exp. Biol., N.Y.*, 86, 2, pp. 373–375, 1 graph, 1954.

At Yale University School of Medicine, New Haven, Connecticut, a polysaccharide preparation derived from autoclaved cells of *Candida albicans* or saline washings from unheated cells was shown by quantitative immunological methods to contain a common antigen shared with *Saccharomyces cerevisiae* and a type-specific *Candida* polysaccharide antigen. Antiserum obtained from rabbits immunized with heat-killed *C. albicans* or *S. cerevisiae* contains appreciably more antibody reacting to the common than to the type-specific antigen.

835. Watrin (J.), Beurey (J.), & Mougeolle (J.). **Les moniliases cutanées et viscérales : leur actualité clinique et biologique.** [Cutaneous and visceral moniliasis: their clinical and biological actuality.]—*Bull. Soc. franç. Derm. Syph.*, 61, 2, pp. 111–113, 1954.

A case of generalized cutaneous moniliasis (*Candida krusei*) of five years' duration in a 48-year-old farmer is fully reported from the Dermatological Clinic, Nancy, France, as presenting features of unusual clinical, etio-pathogenic, and therapeutic interest.

836. Tarbet (J. E.), Oura (M.), & Sternberg (T. H.). **Microassay of antifungal properties of steroid hormones and other compounds.**—*Mycologia*, 45, 5, pp. 627–648, 2 figs., 6 graphs, 1953.

In an investigation conducted at the Veterans Administration Hospital, and the Division of Dermatology, University of California School of Medicine, Los Angeles, the anti-fungal activities of various steroids and other compounds were compared by a spore-counting method, with *Candida tropicalis* as the chief test organism. The number of blastosporulating fungi and not the total number of cells was selected as the more satisfactory measure of growth. The pathogen is sensitive and sufficiently manageable as an indicator to be of real assistance in the estimation and comparison of the potencies of various compounds and mixtures.

While most of the steroid compounds exhibited some activity, few displayed any marked fungicidal properties. With the exception of desoxycorticosterone, the active steroids were nitrogen-containing derivatives of sex hormones. Several steroids stimulated the growth of the fungi at relatively low concentration, though restricting their development at higher levels. Some, including cortisone and hydrocortisone, consistently accelerated the growth of the cultures at the concentrations employed. This increased growth is probably unrelated to the increase in fungal infections occasionally noted in cortisone therapy. Certain mixtures of the steroids and other compounds inhibited the growth of the fungi synergistically. In other mixtures the anti-fungal potencies of the components were antagonistic.

837. Jordan (F. T. W.). **The incidence of Candida albicans in the crops of Fowls.**—*Brit. vet. J.*, 109, 12, pp. 527–530, 1953.

At the Ministry of Agriculture Veterinary Investigation Centre, Aberystwyth, *Candida albicans* was isolated from the crops of 81 out of 378 fowls that had died from a variety of causes; in only 13 were lesions observed and in no case was the fungus considered to be responsible for death [2, No. 117].

The incidence of infection was slightly higher in birds on intensive systems

of management. Infection rates in relation to age were as follows: under two months 1:69 (1·4 per cent.), two to six months 11:69 (16 per cent.), over six months 69:240 (28·7 per cent.).

838. Wunderlich (C.). **Beitrag zum Problem der endogenen Mykosen.** [Contribution to the problem of the endogenous mycoses.]—*Dtsch. med. Wschr.*, 78, 49, pp. 1736–1738, 1953.

This is a discussion of the pathogenetic significance of *Candida albicans*, based on clinical experience and autopsy findings at the Children's Clinic of the University of Mainz, Germany. Four cases are described, two of which illustrate the complications arising from antibiotic therapy in moniliasis. The fungus assumed a great variety of forms, ranging from pure saprophytism through mild, mostly chronic infections, to acutely septic conditions. In very young infants increased acidity and lowered resistance through severe illness contribute to the establishment of the fungus on the various membranes and its spread in the internal organs.

839. Bank (E.). **Die Mucor-Mykose des Endometriums.** [Mucormycosis of the endometrium.]—*Gynaecologia*, 134, 4, pp. 249–252, 1952. [English and French summaries.]

A case of mucormycosis endometrii caused by *Mucor corymbifer* [*Absidia corymbifera*: 1, No. 1289] in a 25-year-old patient at the Municipal Hospital, Budapest, Hungary, was cured by topical applications of oleum sabinae.

840. Kiseleva (Mme M. L.). **Moulds in the etiology of onychomycosis.**—*Vestn. Vener. Derm., 1953*, 2, pp. 22–24, 1 fig., 1953. [Russian Abs. in *Excerpta med., Amst.*, Sect. XIII, 8, 1, p. 25, 1954.]

Penicillium brevicaule [*Scopulariopsis brevicaulis*: cf. 2, No. 126] was isolated from six cases of onychomycosis in the U.S.S.R. and proved to be pathogenic to guinea-pigs.

841. Martin-Scott (I.). **Onychomycosis caused by Scopulariopsis brevicaulis.**—*Trans. Brit. mycol. Soc.*, 37, 1, pp. 38–43, 1 fig., 1954.

A case of onychomycosis caused by *Scopulariopsis brevicaulis* [see preceding entry] in a woman aged 32 is reported from the London School of Hygiene and Tropical Medicine, the first record from Great Britain. The fungus was isolated on many occasions from the right toe-nail and no other pathogen was present. Longitudinal sections of the nail showed cleavages containing germinating spores typical of *S. brevicaulis*. After removal of the nail topical fungicides were applied but the new nail was also infected. The ability of *S. brevicaulis* to grow on moist keratin alone was demonstrated. The cultural characters of the isolate and its microscopic appearance in tissue and culture are described.

842. Prieto (C.) & Pires (A.). **La rhinosporidiose est une antropozoonose.** [Rhinosporidiosis is an anthropozoonosis.]—*Proc. int. vet. Congr., Stockholm*, 1, 1, pp. 23–26, 1953. [English and German summaries.]

From a study of rhinosporidiosis in Argentina the authors conclude that the causal organism is the same in human beings and animals, namely, *Rhinosporidium seeberi* [cf. 1, No. 783]. They observed four stages of development in tissues: (*a*) a free corpuscular form consisting of one element 5 to 60 μ in diameter; (*b*) multinuclear elements 100 μ in diameter; (*c*) condensation of the protoplasm round the nuclei, nearly 4,000 cells forming in the successive mitoses; and mature (*d*) sporangia 250 to 300 μ diameter. Five cases of equine rhinosporidiosis are briefly reported and methods of diagnosis indicated.

843. Ainsworth (G. C.). **Herbarium specimens of dermatophytes.**—*Mycologia*, 46, 1, pp. 110–111, 1954.

After referring to the general scarcity of specimens of fungi pathogenic to man in herbaria the author states that the type specimen of any new dermatophyte should comprise (1) infected hairs or skin scales, and (2) a dried culture, preferably derived from an inoculum of infected material, on a medium favourable to the development of spores and other diagnostic structures.

A useful method of preparing a dried culture is to grow the fungus in a Petri dish containing a 5 mm. layer of medium for 7 to 14 days or more. Filter paper soaked in formalin is placed on the lid for 24 hours, after which the killed culture is cut out, transferred to a sheet of cellophane stretched over a piece of plywood, and placed overnight in an incubator at 37° C. The cellophane is then removed from the card and folded over to form a transparent envelope, which is placed, together with any sample of infected material, in a herbarium packet. At the Commonwealth Mycological Institute the culture-bearing strip of agar is pinned down until dry on a layer of glue on the bottom of a special cardboard container for microscope slides to protect the conidiophores from injury due to pressure or rubbing. The reluctance of curators to handle human pathogens would be overcome if infected hairs or skin scales offered to them were fumigated with formalin or propylene dioxide.

844. Ainsworth (G. C.). **Skin diseases—mycological origin.**—Reprinted from *Vet. Rec.*, 65, 922, 2 pp., 1953.

This contribution to the symposium held by the association of Veterinary Teachers and Research Workers at the University of Liverpool Veterinary Field Station, on 1st April, 1953, is concerned with the history of, and current problems associated with, tinea caused by the so-called dermatophytes, notably *Microsporum canis*, *M. audouini*, *Trichophyton verrucosum*, and *T. mentagrophytes*. According to a recent observation by M. A. Donk the incidence of the complaint in prison camps in Java during the Second World War was heavy at first, following the break from a high nutritional level to one of bare subsistence, but fell with the duration of confinement, reaching zero after three years. A renewed increase occurred on liberation and return to an adequate diet, followed by a gradual decline with gain in weight [cf. 1, Nos. 2350, 2512].

845. Ainsworth (G. C.) & Georg (Lucille K.). **Nomenclature of the faviform Trichophytons.**—*Mycologia*, 46, 1, pp. 9–11, 1954.

Attempting to determine a valid name for *Trichophyton faviforme* [*T. verrucosum*: 2, No. 397] in accordance with the International Rules, the authors point out that the first faviform *Trichophyton* to receive a Latin binomial was '*T. faviforme* à culture grise' Bodin 1896, designated *T. verrucosum* by Bodin in 1902. When *T. faviforme* was first used is uncertain. It appears to be appropriate but has never been validly published and is untypified. It is now too late to validate the name, since it could not be maintained against earlier binomials. The simplest solution is to extend the scope of *T. verrucosum* Bodin, resulting in the following new combinations: *T. verrucosum* Bodin var. *verrucosum* (*T. verrucosum* Bodin 1902), *T. verrucosum* Bodin var. *album* (Sab.) Georg n. comb. (*T. album* Sabouraud 1908), *T. verrucosum* Bodin var. *ochraceum* (Sab.) Georg n. comb. (*T. ochraceum* Sabouraud 1908), and *T. verrucosum* Bodin var. *discoides* (Sab.) Georg n. comb. (*T. discoides* Sabouraud 1910).

846. Alfonso-Armenteros (J.). **Contribución al estudio del la pitiriasis versicolor in Cuba.** [Contribution to the study of pityriasis versicolor in Cuba.]—*Bol. Soc. cubana Derm. Sif.*, 10, 3, pp. 110–123, 3 figs., 1953. [Abs. in *Excerpta med., Amst.*, Sect. XIII, 8, 7, p. 275, 1954.]

Besides the simple type of pityriasis versicolor [*Malassezia furfur*], clinical descriptions are given of the achromia parasitica, papulo-follicular, and erythemato-squamous varieties occurring in Cuba. The fungus is also reported to affect the scalp, face, flexures, and occasionally most of the body surface.

847. Cohen (M. M.). **A simple procedure for staining tinea versicolor (M. furfur) with fountain pen ink.**—*J. invest. Derm.*, 22, 1, pp. 9–10, 1 fig., 1954.

The addition of a small drop of Parker 51 superchrome blue-black ink to potassium hydroxide preparations of scrapings from tinea versicolor (*M[alassezia] furfur*) lesions imparts a dark blue coloration to the mycelium and spores, which show up clearly against the paler background.

848. Swartz (J.) with the collaboration of Mary H. Coolidge. **Kontrastfärbung für Pilze in Hautschuppen, Nageln und Haaren.** [Counter-staining for fungi in skin scrapings, nails, and hairs.]—*Hautarzt*, 4, 2, pp. 61–63, 3 figs., 1953.

This is a German translation by H. Götz of a paper presented at the 96th meeting of the American Dermatological Society held at Hot Springs, Virginia, on 25th and 26th May, 1949, describing a method of staining dermatophytes with phloxin B, cotton blue, and lactophenol.

849. Bergmann (J. W.). **Über Hautfadenpilzinfektionen und ihre Behandlung.** [On hyphomycetous skin infections and their control.]—*Z. Haut- u. Geschlechtskr.*, 16, 10, pp. 310–315, 1954.

This is a report on the very satisfactory results obtained in nearly 250 cases of dermatomycosis, especially of the chronically relapsing and eczematous types, in north-west Germany by the topical application of fungichthol, a mixture of fatty acids dissolved in leukichtol (Cordes, Hermanni u. Co., Hamburg).

850. Amrein (H. P.). **Reihenuntersuchungen über die Häufigkeit der Fußmykose in der Schweiz.** [Serial investigations on the frequency of foot mycosis in Switzerland.]—*Praxis*, 42, 11, pp. 197–202, 1 graph, 1953.

The results of recent studies on the prevalence of athletes' foot among six population groups in Switzerland [cf. 1, Nos. 1973, 1974, 2194] are tabulated and discussed with references to the relevant literature. Microscopic examination of material from 560 infantry recruits was positive in 29 (5·7 per cent.); from 341 soldiers attending a military refresher course in 13 (3·8); from 556 Zürich schoolchildren in 23 (4·1); from 151 schoolchildren in a mountain valley in none; from 87 swimming-bath employees in 18 (20·6); and from 30 swimming-instructors in 21 (70). Thus, public baths are evidently the principal sources of contamination.

Prophylaxis should be based on measures of group hygiene, involving the regular application of an antimycotic ointment in military training colleges and annual inspections of urban schoolchildren and swimming-bath personnel. Undecylenic acid preparations, available on the Swiss market under the names of undex and mycosan, corresponding to the American desenex [1, No. 1267], are the treatment of choice. Of 105 of the author's patients, 44 yielded *Ctenomyces interdigitalis* [*Trichophyton interdigitale*], 24 *T. rubrum*, five *Epidermophyton floccosum*, and two *Candida albicans*.

851. Margarot (J.). **Intérêt prophylactique du dépistage systématique des teignes tondantes par la lumière de Wood dans les agglomérations d'enfants. Résultats d'une expérience de vingt-cinq ans.** [Prophylactic interest of the systematic detection of ringworms by Wood's light in groups of children. Results of 25 years' experience.]—*Bull. Acad. Méd., Paris*, 137, 11–12, pp. 188–189, 1953.

Wood's light was first used by the author during an epidemic of microsporosis [*Microsporum* spp.] which broke out in the Montpellier region of France in 1928, since when it has been regularly employed as an aid to prophylaxis with valuable results. In 1929, 40 cases were treated (of which two were trichophytoses [*Trichophyton* spp.]); in 1930 the number fell to seven, in 1931 it again increased to 20, sank to three in 1932, rose once more to 13 in 1933, and dropped to five in 1934. No case occurred in 1935, between which year and 1940 the annual total fluctuated between 0 and 4. The advent of refugees from other parts of the country in 1943 resulted in seven fresh cases, in 1948 there was only one, but in 1951 a further seven patients were admitted for treatment from towns where diagnosis by Wood's light is not practised. At the moment of writing only one child was in hospital for the complaint.

852. Monash (S.), Sher (J. J.), Traub (E. F.), & Lubowe (I. I.). **Fungicidal action of thorium X on hairs infected with Microsporum audouini.**—*N.Y. St. J. Med.*, 53, 9, p. 1087, 1953.

At the Department of Dermatology, New York Medical College, fresh thorium X solution at a strength of 300 microcuries per ml. exerted a fungicidal action on hairs infected with *Microsporum audouini* after one minute; for weaker concentrations, i.e. 150, 75, 50, and 25 mc. per ml., a period of 15 minutes was required to produce a corresponding effect. No growth occurred after 15 minutes' immersion in solutions up to 72 hours old, but at 96 hours positive cultures were obtained.

853. Beare (J. M.). **Management of the common varieties of scalp ringworm.**—*Brit. med. J., 1954*, 4858, pp. 356–359, 1954.

This summary of the existing position in respect of the four principal agents of tinea capitis in Northern Ireland, namely, *Microsporum audouini*, *M. canis*, *Trichophyton sulphureum*, and *T. discoides*, is based on a paper read at the Annual Meeting of the British Medical Association, Cardiff, 1953.

854. Beare (J. M.) & Cheeseman (E. A.). **The problem of ringworm in Northern Ireland ; a survey of data collected during the period May, 1949, to July, 1951.**—*Ulster med. J.*, 22, Suppl., pp. 1–44, 4 figs., 1953.

This is a comprehensive survey of an epidemic of tinea capitis in Northern Ireland conducted by the Royal Belfast Hospital for Sick Children [cf. 1, Nos. 2178, 2179]. Of 1,244 patients seen at the skin clinics, 666 were suffering from tinea capitis, 418 from tinea corporis, 76 from tinea pedis, 60 from tinea barbae, and smaller numbers from tinea manuum, tinea cruris, and tinea unguium: cultures of the fungi concerned were obtained from 584. *Microsporum audouini* was responsible for at least 427 of the cases of tinea capitis, and there is little doubt that it has been the most important cause of the disease in Northern Ireland for some time. *M. canis* was cultured from 59, while *Trichophyton sulphureum*, *T. discoides*, *T. mentagrophytes*, and *T. schoenleini* also occurred. There were two main foci of infection by *M. audouini* in Belfast and another centre at Newtownards, but the species was represented throughout the area surveyed. It is recommended that all cases should be submitted to X-ray epilation, if only as a means of preventing further spread of the disease, while emphasis is laid on the use of Wood's light for early diagnosis and to verify an apparent cure.

The above-mentioned fungi, together with *Epidermophyton floccosum*, *T. interdigitale*, and *T. rubrum*, were also isolated in comparatively few cases from other parts of the body. The article presents much valuable information on many aspects of tinea.

855. Berg (H.). **Erfahrungsbericht über die Lübecker Mikrosporie-Epidemie.** [Report on experience in the microsporosis epidemic at Lübeck.]—*Hautarzt*, 3, 10, pp. 443–449, 1952.

The epidemic of microsporosis (*Microsporum audouini*) at Lübeck, Germany, which began in November, 1948, was traced to refugees from Danzig and East Prussia. Four of the 130 children involved (84 boys and 46 girls) presented an atypical form of the complaint resembling seborrhoeic eczema or dry seborrhoea. In 15 symptomless cases the diagnosis was established by examination under Wood's light. None of the new fungicides tested was superior to such old-established remedies as Castellani's solution, tincture of iodine, 2 per cent. brilliant green, salicyl-resorcin spirit, and 1 per cent. mercuric chloride in benzoin tincture, all of which completely cured infections of the glabrous skin within two to four weeks. In cases of tinea capitis, however, they must be supplemented by epilation.

856. Jung (H.-D.). **Zur Mecklenburger Mikrosporie-Epidemie.** [A contribution to the Mecklenburg microsporosis epidemic.]—*Derm. Wschr.*, 127, 15, pp. 337–342, 1 fig., 1953.

Further experiences in connexion with the epidemic of microsporosis in Mecklenburg, Germany [1, No. 2329], are reported. The original attribution of one of the cultures to *Microsporum felineum* [*M. canis*] is rectified, subsequent studies having demonstrated its identity with *M. audouini*. The microscopic features of infection with *Aleurisma carnis* [loc. cit.] are similar to those of *M. audouini*. Infection was still rife at the time of writing, when the total number of cases had reached 312. The best control to date has been achieved by a combination of topical applications of 20 per cent. salicyl-hebra ointment, immediately followed by quartz light irradiation, with frequent manual epilation.

857. Cawley (E. P.), Wheeler (C. E.), Boatwright (H.), Smith (D. W.), Randall (H. M.), & Lingamfelter (C. S.). **Infrared spectroscopic studies of fungi.**—*J. invest. Derm.*, 22, 4, pp. 273–278, 3 graphs, 1954.

In this joint contribution from the University of Virginia School of Medicine and the University of Michigan experiments are described involving the application of infra-red spectroscopy to a study of three strains each of *Microsporum canis*, *M. gypseum*, and *Trichophyton mentagrophytes*. In the first-named species the chemical composition of complex mixtures present in the methyl alcohol-chloroform extract was nearly constant, in the second less so, and in the third remarkably inconstant. The method is considered, therefore, to be unsuitable for the positive identification or differentiation of the species concerned.

858. Warner (Mary P.) & Grove (Frances E.). **A study of forty cases of ringworm of the scalp in Hagerstown schools, 1950 and 1951, Washington County, Maryland.**—*J. Pediat.*, 43, 3, pp. 267–273, 1 diag., 1953.

An epidemic of tinea capitis developed in the schools of Hagerstown, Maryland [1, No. 795], in the autumn of 1950, and a programme for treatment and prevention of spread of the complaint was organized by the Washington County Health Department. Of 40 cases reacting positively under Wood's

light, 28 yielded *Microsporum audouini* in pure culture. Topical therapy with asterol [2, Nos. 419–421, 861, 876] was generally effective.

859. Sisk (J. C.), Wooldridge (W. E.), & Lamb (J. H.). **Etiology of superficial mycoses in midwestern United States.**—*Arch. Derm. Syph., Chicago*, 68, 6, pp. 681–684, 1953.

A joint survey of the superficial mycoses in the midwestern United States by the Washington University School of Medicine, the Barnard Free Skin and Cancer Hospital, St. Louis, Missouri, and St. John's Hospital, Springfield, [? Missouri], showed that of 107 out of 115 cases of *Microsporum audouini* infection occurred at St. Louis, Missouri, while *M. canis* accounted for the highest proportion from Oklahoma City, and *M. gypseum* was rarely observed in any area. *Epidermophyton floccosum* was only isolated occasionally, but *Trichophyton rubrum* was very frequent, with infection of over two years' standing in 38 per cent. of the cases, involving the hands and nails as well as the feet and crural region. *T. mentagrophytes* caused infections of shorter duration, usually of the feet but also of the scalp and nails. *Candida* [(?) *albicans*] was frequently isolated from the skin and mucous membrane.

860. Degos (R.), Rabut (R.), & Rivalier (E.). **Statistique des cas de teignes observés à l'école Lailler de 1950 à 1953.** [Statistics of the cases of tinea observed at the École Lailler from 1950 to 1953.]—*Bull. Soc. franç. Derm. Syph.*, 61, 2, pp. 108–109, 1954.

During the period under review the number of cases of tinea capitis occurring at the École Lailler, Paris, rose to 726 [cf. 1, No. 2167]. *Sabouraudites* [*Microsporum*] *canis* was responsible for 71 of the total 364 microsporoses and *S.* [*M.*] *audouini* for seven. Of the 137 trichophytoses, 49 were referred to *Trichophyton violaceum* and seven to *T. soudanensis*; 40·8 per cent. of the patients were African. Most of the 167 cases of favus [*T. schoenleini*] were in African or provincial children (especially from Normandy), each of these sources furnishing 40 per cent., whereas microsporoses were more prevalent among Parisians (93 per cent.).

861. Tenchio (F.). **Eine schleichende Epidemie durch Mikrosporon lanosum.** [A lingering epidemic caused by *Microsporum lanosum.*]—*Dermatologica*, 108, 4–6, pp. 328–332, 3 figs., 1954. [English and French summaries.]

During 1953 the author observed 16 cases of superficial infection by *Microsporum lanosum* [*M. canis*], mostly involving the scalp, among children in the canton of Ticino, Switzerland. Topical therapy with asterol [2, Nos. 858, 876] and dibrosal was completely effective, but the epidemic was thought likely to be of long duration owing to the difficulty of treating all the domestic animals acting as carriers of the fungus.

862. Reiss (F.) & Caroline (Leona). **Tarsonemus confusus: contaminant of fungus cultures.**—*Arch. Derm. Syph., Chicago*, 68, 6, pp. 728–729, 2 figs., 1953.

From the New York University Postgraduate Medical School and Bellevue Hospital the infestation of cultures of *Microsporum lanosum* [*M. canis*] by the mite *Tarsonemus confusus* [cf. next entry] is reported with indications for its prevention.

863. Jones (R. W.) & Lohrman (Rosemary). **Contamination of fungus cultures by Tyrophagus lintneri.**—*J. invest. Derm.*, 22, 4, pp. 265–266, 2 figs., 1954.

Agar cultures of *Trichophyton rubrum* and *Microsporum audouini* became contaminated by the mite *Tyrophagus lintneri* [cf. preceding entry] at the

Indianapolis General Hospital, Indiana, without deleterious effects on either side. The migration of the arachnids was readily controlled by keeping the plates on a support surrounded by mineral oil in a draught-free enclosure.

864. Gonçalves (A. P.). **Considerações sôbre as micoses causadas pelo Microsporum gypseum.** [Study of mycoses caused by *Microsporum gypseum.*]—*An. bras. Derm. Sif.*, 28, 1, pp. 15–26, 1953. [English summary.]

Up to the time of writing only 13 cases of infection by *Microsporum gypseum* had been recorded in Brazil, representing about 1·4 per cent. of the total of dermatomycoses, of which eight were observed by the author and are reported in this paper. In five the symptoms were characteristic of dermatophytosis circinata, in two of kerion, and in one of tinea tonsurans. The complaint is readily curable by topical methods.

865. Ruiz (A.). **Un caso de tinea unguium producido por Microsporum gypseum (Bodin, 1907) Guiart et Grigorakis, 1928.** [A case of tinea unguium induced by *Microsporum gypseum* (Bodin, 1907) Guiart & Grigorakis, 1928.]—*Rev. Biol. trop.*, 1, 1, pp. 33–37, 1 pl., 1953. [English and Italian summaries.]

A case of onychomycosis (*Microsporum gypseum*) of the left thumb in a female patient at the Hospital of San Juan de Dios, San José, Costa Rica, is of interest in view of the rarity with which species of this genus attack the fingernails [cf. 1, No. 1990].

866. Götz (H.) & Brendler (Renate). **Über einen bisher seltenen Hautpilz in Deutschland : Mikrosporum gypseum.** [On a hitherto rare skin fungus in Germany: *Microsporum gypseum.*]—*Arch. Derm. Syph., Wien*, 194, 3, pp. 314–322, 8 figs., 1952.

A description is given of the macro- and microscopic characters of *Microsporum gypseum*, cultured from a lesion on the face of a five-year-old girl at the Dermatological Clinic, Munich. The species is considered to be identical with *Achorion gypseum*, *M. fulvum* [cf. 1, No. 594], *M. xanthodes*, *M. scorteum*, and a strain of *M. felineum* [*M. canis*] described in Volume XI of the 'Handbuch für Haut- und Geschlechtskrankheiten'. During the last 50 years it has been isolated only seven times in Germany.

867. Dewulf (L.). **Le traitement par rayons X des mycoses du cuir chevelu et de la barbe.** [The treatment by X-rays of mycoses of the scalp and beard.]—*Arch. belg. Derm. Syph.*, 9, 2, pp. 155–165, 5 figs., 1953. [Flemish and English summaries.]

A full description is given of the Kienböck-Adamson method of X-ray treatment, which has been successfully applied in 39 cases of tinea capitis at the Clinic of Radiotherapy of the University of Ghent, Belgium, and may also be used, with certain modifications, for mycoses of the beard.

868. Henricke (S. G.). **Treatment of ringworm of the scalp.**—*J. Amer. med. Ass.*, 153, 15, p. 1380, 1953.

From experience at the Pediatric Clinic, Portland, Oregon, the author suggests the following treatment for tinea capitis, which was uniformly successful in all his cases. After clipping the hair to about $\frac{1}{4}$ in. in length over an area $\frac{3}{4}$ in. wider than the lesion, carbo-fung (containing resorcinol, phenol, fuchsin, solvents, and inert components) is applied and covered with several layers of collodion. Three days later the collodion is removed with forceps, bringing the loosened infected hairs with it. Thereafter the area is painted with carbo-fung daily for one week.

869. Nuñez Andrade (R.). **Tiña imbricada.** [Tinea imbricata.]—*Medicina, Méx.*, 33, 686, pp. 473–479, 1953.

A detailed account is given of the history, geographical distribution, epidemiology, symptoms, diagnosis, treatment, prognosis, and prophylaxy of tinea imbricata (*Trichophyton concentricum*) [2, No. 137]. It is generally believed to be rare in children under ten years old but it was acquired by a three-year-old girl in Tlaxcala State, Mexico. The complaint is more prevalent in natives than among Europeans and its incidence is high in many islands in the South Pacific, where one-third to three-quarters of the population are affected. In other areas where conditions are less favourable to the fungus its occurrence is only sporadic. Treatment consists primarily in bathing in lukewarm water and rubbing the affected skin to loosen the scales before applying salicylic acid [2, No. 136] in alcohol solution at 2 per cent. for children and up to 20 per cent. for adults.

870. Sharvill (I.) & Talbot (J. M.). **Cycloheximide in the isolation of dermatophytes.**—*Brit. J. Derm.*, 66, 6, pp. 214–217, 1954.

At King's College Hospital, London, the addition to Sabouraud's agar of cycloheximide [actidione], penicillin, and streptomycin at concentrations of 0·1 mg., 20 units, and 40 units per ml., respectively, did not greatly increase the number of various dermatophytes isolated from fresh material as compared with plain Sabouraud's and malt tellurite agar but permitted the growth of *Trichophyton concentricum* from heavily contaminated stale specimens. At the foregoing rates the antibiotics exerted no obvious effect on the gross or microscopic appearances of the fungi under observation.

871. Shumard (R. S.), Beaver (D. J.), & Hunter (M. C.). **New bacteriostat for soap. An evaluation of biological and chemical properties of 'actamer' (2,2′-thiobis (4,6-dichlorophenol).)**—Reprinted from *Soap, N.Y.*, 20, 6 pp., 2 graphs, 1953.

A description is given of a bacteriostatic agent, 'actamer', 2,2′-thiobis (4,6-dichlorophenol), a colourless, tasteless, essentially odourless, white, crystalline product with exceptional anti-microbial activity. The Monsanto Chemical Company, St. Louis, has found it particularly effective against Gram-positive bacteria and, more specifically, the cocci constituting a large proportion of the normal resident bacterial flora of the skin. At a concentration of 1 in 1,000 it completely inhibited the growth of *Trichophyton gypseum* [*T. mentagrophytes*], *Epidermophyton inguinale* [*E. floccosum*], *Chaetomium globosum*, and *Penicillium notatum*, while the first two were arrested at 1 in 100,000.

872. Friderich (H.). **Beitrag zur Behandlung von Mykosen.** [Contribution to the therapy of mycoses.]—*Z. Haut.- u. Geschlechtskr.*, 15, 7, pp. 228–231, 4 figs., 1953.

Satisfactory results covering a three-year period are reported from the Dermatological Clinic of the University of Tübingen, Germany, in the treatment of 258 cases of epidermophytosis and 27 of superficial trichophytosis (*Trichophyton gypseum*) [*T. mentagrophytes*] with fissan-antimykoticum, incorporating sublimate spirit and dichlorodioxyphenylmethane.

873. Silva (Margarita) & Benham (Rhoda W.). **Nutritional studies of the dermatophytes with special reference to the red-pigment-producing varieties of Trichophyton mentagrophytes.**—*J. invest. Derm.*, 22, 4, pp. 285–294, 4 figs., 1954.

The results of preliminary nutritional studies at the Columbia Presbyterian Medical Center, New York, on various types of isolates classified as *Trichophyton mentagrophytes* [cf. 2, No. 2537] suggest the existence of a correlation between relative virulence and pathogenicity on the one hand and pigment production and metabolic requirements *in vitro* on the other. The paper, presented at the 14th Annual Meeting of the Society for Investigative Dermatology on 31st May, 1953, was followed by a discussion (pp. 294–297).

874. Ajello (L.) & Getz (M. E.). **Recovery of dermatophytes from shoes and shower stalls.**—*J. invest. Derm.*, 22, 1, pp. 17–21, 1 fig., 1954.

At the Communicable Disease Center, Public Health Service, Atlanta, Georgia, using a selective medium containing 0·5 mg. actidione, 20 units of penicillin, and 40 units of streptomycin per ml. Sabouraud's dextrose agar, the authors isolated *Trichophyton mentagrophytes*, *T. rubrum*, and *Epidermophyton floccosum* from used shoes and the first-named species also from the tile flooring of a shower stall.

875. Gale (G. R.). **The inhibition of respiration of certain dermatophytes by β-propiolactone.**—*J. invest. Derm.*, 22, 1, pp. 1–3, 1 graph, 1954.

In experiments at the Duke University School of Medicine, Durham, North Carolina, β-propiolactone (betaprone), at concentrations of 1 in 1,000 and 1 in 100, depressed the growth on Sabouraud's agar of *Trichophyton rubrum*, *T. mentagrophytes*, *Microsporum gypseum*, *M. canis*, and *Epidermophyton floccosum*, as well as their oxygen uptake in a M/20 potassium phosphate buffer at pH 4·6 [cf. 1, Nos. 1004, 2506].

876. Edelson (E.) & Haskin (A. H.). **Asterol treatment of superficial dermatomycoses due to T. mentagrophytes and T. purpureum.**—*Arch. Derm. Syph., Chicago*, 68, 6, pp. 627–630, 1953.

An investigation at the Newark Board of Health Clinics, New Jersey, into the effect of asterol [2, Nos. 858, 861] treatment in *Trichophyton mentagrophytes* and *T. purpureum* [*T. rubrum*] infections showed that of 39 patients with acute or chronic lesions caused by the former species, 22 were cured and 10 much improved, while of 58 chronic cases of the latter (27 with onychomycosis), 14 were cured (five with onychomycosis). Thus, the effect of asterol on these two fungi is less pronounced than on *Microsporum audouini* [2, No. 858] moniliasis [*Candida* spp.], and tinea versicolor [*Malassezia furfur*].

877. Goldstein (N.). **Encephalopathy occurring during the topical use of asterol.**—*J. Pediat.*, 42, 6, pp. 726–727, 1953.

From the Walter Reed Army Hospital, Washington, is reported the case of a 3½-year-old boy who developed a well-defined picture of 'toxic' encephalopathy with hallucinations following the topical use of asterol dihydrochloride in the treatment of tinea capitis [cf. 2, Nos. 419–421, 876]. Recovery was rapid and complete after the drug was discontinued.

878. Vanbreuseghem (R.) & Gatti (F.). **Action fungistatique, fungicide et morphogénétique de l'asterol sur les dermatophytes congolais.** [Fungistatic, fungicidal, and morphogenetic effects of asterol on Congolese dermatophytes.]—*Ann. Soc. belge Méd. trop.*, 33, 6, pp. 697–707, 1953. [Flemish summary.]

In *in vitro* experiments at the Institute of Tropical Medicine, Antwerp, asterol [2, No. 877] exerted a powerful fungistatic action on the Congolese dermatophytes *Ctenomyces interdigitalis* [*Trichophyton interdigitale*], *Sabouraudites langeroni*, *S. duboisii*, *S. rivalieri*, *S. catanei* n. sp., *T. ferrugineum* and its var. *album*, *T. rubrum*, *Epidermophyton floccosum*, and *L. soudanensis*, the

growth of which was totally inhibited at a concentration of 1 in 10,000 and virtually ceased at 1 in 50,000; in no case, however, were the organisms actually destroyed even by an hour's exposure to a strength of 5 per cent. In general, contact with the chemical resulted in a decrease of reproductive elements and their replacement by forms of resistance, represented by numerous intercalary chlamydospores.

879. Thompson (R. C.). **Ringworm of the hands due to Trichophyton rubrum: diagnosis and treatment.**—*Sth. med. J.*, 47, 2, pp. 130–133, 1 fig., 1954.

Following a review of 11 contributions to the literature on infection of the hands by *Trichophyton rubrum*, the author summarizes the records of 39 patients seen in private practice at Chattanooga, Tennessee, between 1st January, 1951, and 30th June, 1953. The youngest was four years of age and the oldest 59, but most were between 20 and 40, males predominating by about five to one. The duration of infection ranged from a few months to 20 years (average seven years). The results of therapy were usually disappointing.

880. Sutton (R. L.) & Ayres (S.). **Dermatitis of the hands.**—*Arch. Derm. Syph., Chicago*, 68, 3, pp. 266–285, 1953.

Fungal infection of the hands is stated to be comparatively rare in the United States. The species most usually involved is *Trichophyton rubrum* but *Candida albicans* may also be implicated. The feet may be a focus of infection and should always be investigated when the hands are treated.

881. Dey (N. C.). **Trichophyton purpureum infection in India.**—*Indian med. Gaz.*, 88, 10, pp. 525–526, 1953.

Information is briefly presented on the prevalence and symptomatology of *Trichophyton purpureum* [*T. rubrum*] in India [1, No. 1237], the cultural and morphological characters of the fungus, and the diagnosis and therapy of the ringworm of the glabrous skin which it incites.

882. Waisman (M.). **Trichophyton rubrum infection simulating erythema perstans.**—*J. invest. Derm.*, 22, 3, pp. 237–241, 1 fig., 1954.

Four cases of an uncommon circinate and gyrate, urticarial and erythematous infection caused by *Trichophyton rubrum* and clinically indistinguishable from erythema perstans are reported from Florida. The absence of scaling in the lesions tends to divert suspicion from their mycotic origin, while the paucity of fungal elements necessitates an intensive search for the causal organism.

883. Fox (P. B.) & Rush-Munro (F. M.). **Tinea capitis due to Trichophyton sulphureum.**—*N.Z. med. J.*, 52, 292, pp. 488–493, 9 figs., 1953.

Nine cases of tinea capitis caused by *Trichophyton sulphureum* during the past 18 months are reported from the Auckland Hospital, this being the first record of the fungus for New Zealand. The available evidence suggests the possibility of its introduction by Pacific Islanders and European immigrants.

884. Götz (H.). **Untersuchungen über die pathogenetischen Faktoren und die Behandlung der Nagelpilzkrankheit.** [Studies on the pathogenetic factors and therapy of onychomycosis.]—*Arch. Derm. Syph., Wien*, 195, 6, pp. 579–616, 11 figs., 1953.

This is an important, fully documented and tabulated account of the author's studies on the pathogenesis and therapy of onychomycosis in the Hamburg and Munich districts of Germany. The complaint, like other

dermatomycoses, is increasing steadily, the number of cases in the former region having risen from three in 1938 to 58 in 1949 and in the latter from four in 1938 to 65 in 1951. *Epidermophyton* [*Trichophyton*] *interdigitale* and *E.* [*T.*] *rubrum* are the principal agents of infection, the incidence of which is much higher in women than in men (67 as compared with 33 per cent. of the 150 cases investigated at the Munich University Skin Clinic from October, 1950, to July, 1952).

Direct hyphal penetration into the nail keratin was not observed, the nail bed being predisposed to invasion by pathogenetic factors, such as nutritional disturbances of the tissue, epidermal microlesions below the nail, excessive local moisture from perspiration or occupational activities, maceration, an alkaline shift in the pH, and neglect of hygienic practices.

In conclusion, particulars are given of laboratory and clinical studies on a method of therapy involving the gradual removal from the nail bed of the infected keratin, previously softened by soaking in a mixture of sodium thioglycollate, sodium iodide, and 8-oxyquinoline in tylose mucilage.

885. Hänig (Else). **Zur Behandlung der Pilzerkrankungen mit Bradex bzw. Bradex-Vioform.** [On the treatment of mycoses with bradex or bradex-vioform.]—*Z. Haut- u. Geschlechtskr.*, 16, 6, pp. 148–150, 1954.

Bradex or bradex-vioform (a combination of 2 per cent. vioform [1, No. 1019], 0·05 per cent. bradosol, and 1 per cent. pyribenzamin) is reported to have given promising results in the therapy of epidermophytoses, including tinea pedis due to *Epidermophyton* Kaufmann-Wolf [*Trichophyton interdigitale*], at the Dermatological Clinic, Hachen, Germany. The preparations are supplied for topical application or internal administration by Chem. Fabrik Ciba.

886. Granitz (J.) & Janke (R. G.). **Über die gegenseitige Beeinflussung von Chemotherapeutica und Antibiotika.** [On the reciprocal influence of chemotherapeutics and antibiotics.]—*Arch. Derm. Syph., Wien*, 197, 6, pp. 513–520, 3 graphs, 1954.

At the University Clinic for Skin Diseases, Vienna, the sodium salt of undecylenic acid, nipasol, and vioform [2, No. 885] combined with penicillin, terramycin, and chloromycetin were tested against nutrient agar cultures of *Epidermophyton floccosum*, *Fusarium* sp., and *Rhodotorula rubra*, using as a standard of synergistic action A. Janke's toxicity coefficient (*PflSchBer.*, 11, pp. 97–112, 1953 [*R.A.M.*, 33, p. 365]) on the basis of ED50 (TK50) and ED95 (TK95).

With all the antibiotics undecylenic acid gave values far exceeding 1 for both toxicity coefficients, indicating assured synergism. On the other hand, nipasol and vioform were only partially synergistic at TK50, while at TK95 the former lost some of its combining efficiency and the latter all.

887. Hata (J.), Tsuruoka (M.), Utsumi (I.), & Ida (T.). **Chemotherapeutics for dermatomycosis. I. Antifungal effect of 2,6-substituted benzathiazole derivatives.**—*J. pharm. Soc. Japan*, 74, pp. 245–249, 1954. [Abs. in *Chem. Abstr.*, 48, 13, p. 7780, 1954.]

Of 50 kinds of 2,6-substituted benzathiazole derivatives tested for their potential efficacy as remedies for dermatomycosis, the following exerted a powerful fungicidal action on *Trichophyton gypseum* [*T. mentagrophytes*] and *Microsporum* spp. and a weaker one on *Achorion* [*M.* or *T.*] spp.: NMe_2-HBr, Cl, 20,000; NMe_2-HCl, $OCH_2CH_2NEt_2$-HCl, 10,000 to 20,000; NEt_2-HCl,

OCH_2-CH_2 NEt_2-HCl, 50,000; NMe_2-HCl, EtS, 40,000; SEt, OMe, 40,000; Cl, OH, 50,000; and Cl, OCH_2CH_2-NEt_2-HCl, 50,000. The addition of horse serum did not reduce the toxicity of NMe_2-HCl, $OCH_2CH_2NEt_2$-HCl or NEt_2-HCl, OCH_2-CH_2NEt_2-HCl, but the other compounds were adversely affected.

888. Holtermann (H.). **Erfahrungen mit Cuprizinin bei der Behandlung der Epidermophytien.** [Experiences with cupricinin in the treatment of epidermophytoses.]—*Z. Haut- u. Geschlechtskr.*, 16, 6, pp. 174–176, 1954.

From Bonn, Germany, the writer reports encouraging results in the therapy of epidermophytosis of the feet and hands (*Epidermophyton* Kaufmann-Wolf [*Trichophyton interdigitale*]) by topical applications of cupricinin, a copper oxyoleate preparation supplied in various forms by Dr. Degen von Kuth, Düren.

889. Jung (H.-D.) & Schroeder (H.). **Zur antimykotischen Wirksamkeit pflanzlicher Extrakte.** [On the antimycotic efficacy of plant extracts.]—*Arch. Derm. Syph., Wien*, 197, 2, pp. 130–144, 5 figs., 1954.

Following a survey of previous contributions to the literature on the application of plant extracts in the control of dermatophytes and moulds, the authors describe their *in vitro* experiments at the University Skin Clinic, Greifswald, Germany, in which the plant extracts were tested against five fungi on nervina malt agar slants (Grütz III). The best average results were obtained with *Pulsatilla pratensis*, a 0·1 per cent. solution of which definitely inhibited the growth of *Trichophyton plicatile* and *Epidermophyton* [*T.*] *interdigitale*. The most successful single test was performed with *Echinacea purpurea* cum urea, which totally arrested the development of *T. interdigitale* at dilutions down to 1 in 1,000. Satisfactory average values were also secured with extracts of *Anemone nemorosa* and *Ranunculus acer*.

890. Kaden (R.). **Der Einfluß von B-Vitaminen und Organextrakten auf Trichophyton interdigitale und Candida albicans.** [The influence of B vitamins and organ extracts on *Trichophyton interdigitale* and *Candida albicans*.]—*Arch. Derm. Syph., Wien*, 197, 6, pp. 528–541, 3 figs., 1 graph, 1954.

In experiments at the Rudolf Virchow Hospital, Berlin, vitamin B 1, vitamin B complex, and liver extract with vitamin B 12 afforded the most definite stimulus to the growth of *Trichophyton interdigitale* and *Candida albicans*, closely followed by organ extracts in general (heart, testis, and ovaries). The accessory growth substances did not markedly influence the tendency of both fungi, especially *C. albicans*, towards acidification of the medium.

891. Kaden (R.). **Vergleichende Versuche über die Resistenzsteigerung von Epidermophyton Kaufmann-Wolf.** [Comparative experiments on the increase of resistance in *Epidermophyton* Kaufmann-Wolf.]—*Z. Haut- u. Geschlechtskr.*, 15, 1, pp. 1–6, 2 figs., 1953.

At the Dermatological Clinic, Rudolf Virchow Hospital, Berlin, cultures of *Epidermophyton* Kaufmann-Wolf [*Trichophyton interdigitale*] were followed up through 14 passages in chloroxyquinoline and fatty acid-containing tubes, during which the concentration of the former changed from 1 in 2,100 to 1 in 475 and that of the latter from 1 in 2,800 to 1 in 700. From the results of these and further studies it is concluded that the fungus gradually acquires resistance to antimycotics, which should therefore be changed from time to time to prevent the frequent recurrence of infection.

892. Kalliomäki (L.) & Nyrke (T.). **Jalkasilsasta ja sen esüntymisestä vangeilla.** [Dermatophytosis of the feet: its incidence among prisoners.]—*Duodecim, 1950*, 12, pp. 925–933, 1950. [English summary. Received 1953.]

Examination of the feet of 790 prisoners in the Central Prison, Turku, Finland, revealed clinical symptoms in 33 per cent., mostly between the fourth and fifth toes or in several lateral interdigital areas. Yeasts, *E[pidermophyton*: *Trichophyton] interdigitale*, and *E. inguinale* [*E. floccosum*] accounted for 15·8, 17·3, and 0·8 per cent., respectively, of the total. In 50·8 per cent. of the clinically positive cases sweating of the feet was an associated symptom; in this group the incidence of pathogenic fungi was 21·3 per cent. higher than among the other inmates. *Candida* spp. and *T. interdigitale* accounted for 31·6 and 42·1 per cent., respectively, of the more severe infections.

893. King (W. C.), Walton (Ida K.), & Livingood (C. S.). **Superficial fungus infections in infants.**—*Arch. Derm. Syph., Chicago*, 68, 6, pp. 664–667, 2 figs., 1953.

After a summary of 11 cases of superficial mycoses of infants from the relevant literature, ten further ones in children of under 12 months are described from the University of Texas School of Medicine, three of which were due to *Microsporum lanosum* [*M. canis*], two to *Epidermophyton floccosum*, and one each to *M. gypseum*, *Trichophyton rubrum*, and *T. ferrugineum*. All were cured by topical therapy, *T. rubrum* being much more easily eradicated than in the average adult. The high incidence of infection may be explained by the semi-tropical climate of the district.

894. Mallinckrodt-Haupt (A. S.). **Zur Biologie der pathogenen Hautpilze. Der Antagonismus der Pilze untereinander.** [On the biology of pathogenic skin fungi. The mutual antagonism of the fungi.]—*Z. Haut- u. Geschlechtskr.*, 15, 3, pp. 74–78, 6 figs., 1953.

Details are given of experiments at the Skin Clinic, Bruhl, near Cologne, Germany, in which, for example, cultures of *Trichophyton* and *Microsporum* spp. yielded substances with a weakly antibiotic effect on *Penicillium*; an extract from a *Penicillium* forming brown colonies with a purple centre inhibited the growth of *Actinomyces* and was also active against *T. granulosum* and *Epidermophyton* Kaufmann-Wolf [*T. interdigitale*], though less so than antibiotics of bacterial origin; an *Actinomyces* secreted a substance inducing the development of a 5-mm. zone of inhibition on a plate inoculated with *T. granulosum*; and finally, nearly all the dermatophytes elaborated a water-soluble material more or less antagonistic to *Actinomyces*, *M. audouini* being particularly effective with an inhibition zone of 20 mm.

895. Miescher (G.), Fischer (E.), & Walch (J.). **Ein Fall von follikulärer Trichophytie, bedingt durch das Epidermophyton interdigitale Kaufmann-Wolf (Ctenomyces interdigitalis).** [A case of follicular trichophytosis induced by *Epidermophyton interdigitale* Kaufmann-Wolf (*Ctenomyces interdigitalis*).]—*Dermatologica, Basel*, 106, 3–5, pp. 183–186, 3 figs., 1953. [English and French summaries.]

From the Dermatological Clinic of the University of Zürich, Switzerland, the authors describe a case of follicular trichophytosis of the lower legs in a 28-year-old dressmaker. The extraordinary condition developed in 1948 as a sequel to long-standing infection of both feet by *Trichophyton interdigitale*, which was isolated on maltose agar.

896. Oláh (D.) & Máramarosi (G.). **Eine seltene klinische Abart der oberflächlichen Trichophytie des behaarten Kopfes (Trichophytia psoriasiformis capillitii).** [A rare clinical variant of superficial trichophytosis of the scalp (trichophytia psoriasiformis capillitii).]—*Dermatologica, Basel*, 108, 2, pp. 33–35, 1 fig., 1954.

From the University Skin Clinic, Debrecen, Hungary, the authors report a case of psoriasiform trichophytosis (a very rare condition) caused by *Trichophyton faviforme album* [*T. verrucosum*] in an 11-year-old schoolboy. A cure was effected within $2\frac{1}{2}$ weeks by the topical application of tincture of iodine and cinnabar-sulphur ointment dressings.

897. Pfleger (R.). **Über die fungistatische und kontaktinsektizide Wirkung von Phenyl-trichlormethylsulfiden.** [On the fungistatic and contact-insecticidal action of phenyl-trichloromethylsulphides.]—*Angew. Chem.*, 65, 16, pp. 415–418, 1953.

From the Institute for Applied Chemistry of the University of Erlangen, Germany, the author reports the results of experiments demonstrating the powerful fungistatic action on *Trichophyton gypseum* [*T. mentagrophytes*] and *Torulopsis minor* [1, Nos. 1625, 2321] of halogenated 2,2′-dioxy-diphenylsulphides. Under the names of D 25 and novex, 2,2-dioxy-5,5′-dichlorodiphenylsulphide [1, No. 2321; cf. 2, No. 144, where 'sulphate' in l. 2 should read 'sulphide'] has proved outstandingly successful as an internal therapeutant for clinical use.

898. Raubitschek (F.). **Antibiotics and their action on pathogenic fungi. I. Penicillin and streptomycin. II. Penicillin and streptomycin ; terramycin.**—*J. invest. Derm.*, 20, 6, pp. 401–403, 1953; 22, 5, pp. 359–361, 1954.

In *in vitro* experiments at the Hebrew University, Hadassah Medical School, Jerusalem, Israel, the addition of penicillin and streptomycin (up to 500 units of each per ml.) to Sabouraud's maltose agar increased the yield of positive cultures of dermatophytes on primary isolation from clinical material, curtailed the time before the appearance of growth by about half, and failed to influence the growth rate of *T*[*richophyton*] *mentagrophytes*, *T. rubrum*, *T. violaceum*, and *T. schoenleini*. The antibiotics appear to activate the adaptation of fungi from a parasitic to a saprophytic habit.

899. Reiss (F.). **Trichophyton tonsurans ringworm : a contribution to the epidemiology and rare clinical manifestations.**—*Brit. J. Derm.*, 66, 7, pp. 239–243, 1954.

From 1947 to 1953, 44 patients (15 Puerto Rican) infected by *Trichophyton tonsurans* were seen at Bellevue Hospital, New York, 15 males (34·1 per cent.) and 29 females (65·9), the scalp being involved in 29 cases and the glabrous skin in 15. Only one patient, a 43-year-old male with onychomycosis of the toe-nails, was beyond the age of puberty. An endemic focus was found at Mount Loretto Home, Long Island, affecting seven children over an eight-month period. Unusual manifestations of the complaint included erythematous patches over the eyebrows, resembling erythema streptogenes, and circinate, crusted, eroded lesions on the forearm, suggestive of circinate impetigo.

It is proposed that for the time being *T. tonsurans* should be the generic designation for a group of fungi comprising *T. sulphureum*, *T. cerebriforme*, *T. acuminatum*, and *T. crateriforme*.

The therapy of scalp lesions presents considerable difficulty, particularly since X-ray epilation alone has no curative value. Infections of the glabrous

skin, however, respond readily to topical applications of Whitfield's or ammoniated mercury ointment, desenex, asterol, or decupryl.

900. Karayeva (Mme Z. M.). **Treatment of fungous disorders of the scalp with a 20 per cent. acetic acid lotion.**—*Vestn. Vener. Derm., 1953*, 3, pp. 17–18, 1953. [*Russian.* Abs. in *Excerpta med., Amst.*, Sect. XIII, 8, 2, p. 79, 1954.].

Only four out of 55 persons suffering from ringworm and two from favus [of unspecified origin] in the U.S.S.R. required eventual X-ray treatment after courses of topical therapy lasting for six weeks to two months with a lotion consisting of 20 per cent. glacial acetic acid and 80 per cent. distilled water.

901. Rivalier (E.). **Description de Sabouraudites praecox nova species suivie de remarques sur le genre Sabouraudites.** [Description of *Sabouraudites praecox* n. sp., followed by remarks on the genus *Sabouraudites.*]—*Ann. Inst. Pasteur*, 86, 3, pp. 276–284, 1 pl., 5 figs., 1954.

A full description [without a Latin diagnosis] is given of *Sabouraudites praecox* n.sp., isolated from the pus of suppurating vesicles on the wrist of a 42-year-old male patient at the Hôpital Saint-Louis, Paris. It makes rapid and extensive growth on Sabouraud's maltose or dextrose agar, forming chamois-coloured, very finely pulverulent colonies and producing quite distinctive 'fuseaux' or macroconidia. Borne like the flowers of a loose inflorescence, mostly at the tips of long, slender, branched hyphae, they measure 60 to 65 by 9 μ and present a lanceolate aspect.

A critical discussion follows of *S. gypseus* (syn. *Achorion* [*Microsporum*] *gypseum*), *S. canis* (*M. lanosum*, *M. felineum*) [*M. canis*], *S.* [*T.*] *gallinae*, *S. fulvus* [*M. gypseum*], *S.* [*M.*] *duboisi* [1, No. 2541; 2, No. 878], and *S. ferrugineus* [*T. ferrugineum*].

902. Spoor (H. J.) & Yang (D.). **A study of athletes' foot in children.**—*Bull. N.Y. med. Coll.*, 14, pp. 112–118, 1951.

The feet of children resident at a juvenile centre in New York were examined at monthly intervals through one academic year, during which the incidence of dermatomycoses ranged from 45 to 65 per cent. Cultures were made from some of the more severe cases, of which approximately one-third gave positive results. *Candida* sp. (presumed pathogenic) was obtained from some two-thirds of the cultures and *Trichophyton rubrum*, *T.* [*Microsporum*] *gypseum*, and *T. sulphureum* from the remainder. A number of proved fungicidal ointments and bland lotions were tested against the complaint; the latter gave better results than the former, especially when combined with an antihistamine. The effects of the various treatments were not correlated with the species of fungus present in individual cases.

903. Zimmer (F.). **Über die Behandlung verschiedener Dermatomykosen mit Benzoderm.** [On the treatment of various dermatomycoses with benzoderm.] —*Z. Haut- u. Geschlechtskr.*, 15, 4, pp. 111–112, 1953.

From the Evangelical Hospital, Düsseldorf, Germany, the writer reports very satisfactory results in the therapy of various dermatomycoses with benzoderm, which is available in ointment, solution, and powder form and has been found particularly suitable for the treatment of out-patients.

904. Stedman (R. L.), Engel (S. L.), & Bilse (I. M.). **Quaternary ammonium derivatives of ω-amino acids, a new series of quaternary ammonium compounds.**—*Appl. Microbiol.*, 1, 3, pp. 142–145, 1953.

At the McNeil Laboratories, Inc., Philadelphia, a number of quaternary

ammonium compounds, in which a fatty acid radicle appeared in the cationic portion of the structure, were synthesized by quaternizing the amino groups of certain ω-amino acids. Octyl, dexyl, lauryl, myristyl, and cetyl (carboxymethyl) dimethylammonium bromide; cetyldimethylbetaine; cetyl (2-cyanoethyl) dimethylammonium bromide; lauryl, myristyl, and cetyl (5-carboxypentyl) dimethylammonium iodide; cetyl (5-carbomethoxypentyl) and cetyl (5-carbamylpentyl) dimethylammonium bromide; cetyl (7-carboxyheptyl), cetyl (7-carbomethoxyheptyl), decyl (10-carboxydecyl), and cetyl (10-carboxydecyl) dimethylammonium bromide were tested for fungicidal and fungistatic activity against *Candida albicans* and *Trichophyton mentagrophytes*. Among the compounds with a free carboxyl group, an increase in fungicidal activity with a lengthening of the lipophilic alkyl chain was noted against the former but not the latter species. The fungistatic coefficients of most of the derivatives are high, possibly due in part to their solubility and diffusion, while ionization may also be a contributory factor.

905. Unat (E. K.). **Dermatophytosis of the scalp in Istanbul.**—*Rev. Fac. Méd. Univ. Istanbul*, 15, 2, pp. 890–896, 1952. [Abs. in *Excerpta med., Amst.*, Sect. XIII, 8, 1, pp. 26–27, 1954.]

Of 107 scrapings of hair and squamae examined in Istanbul, Turkey, for the presence of fungi, 61 were positive, namely, 26 for *Trichophyton violaceum*, 21 for *Microsporum canis*, 11 for *T. schoenleini*, two for *M. audouini*, and one for *T. sabouraudi*.

906. Vanbreuseghem (R.). **Intérêt théorique et pratique d'un nouveau dermatophyte isolé du sol : Keratinomyces ajelloi gen. nov., sp. nov.** [Theoretical and practical interest of a new dermatophyte isolated from the soil: *Keratinomyces ajelloi* n.g., n.sp.]—*Bull. Acad. Belg. Cl. Sci.*, Sér., 5, 38, p. 1068, 2 figs., 1952.

Keratinomyces ajelloi n.g., n.sp. [2, No. 600], isolated from Belgian soils and parasitic not only on hair but also on wool, resembles other dermatophytes in its morphological and biological characters but differs from them in the absence of pathogenicity to guinea-pigs. It is considered probable that the soil harbours other non-pathogenic dermatophytes concerned in the disintegration of keratin.

907. Vilanova (X.) & Casanovas (M.). **Double mycotic infection in some cases of tinea of the scalp.**—*Dermatologica, Basel*, 108, 2, pp. 109–113, 3 figs., 1954. [German and French summaries.]

Between 1950 and 1953 the authors observed five cases of tinea capitis due to mixed infection by *Trichophyton acuminatum* [*T. sabouraudi*] and *T. violaceum* among children from an orphanage at Barcelona, Spain. In cultures direct from the scalp the development of both species proceeded simultaneously, but in subcultures they were separated by a zone of inhibition. Single infection by *T. sabouraudi* occurred in 14 other inmates of the same institution and by *T. violaceum* in 26.

908. Georg (Lucille K.). **The diagnosis of ringworm in animals.**—*Vet. Med.*, 49, 4, pp. 157–166, 12 figs., 1954.

Explaining that the correct diagnosis of ringworm in animals involves the actual demonstration of fungal elements in a lesion, the inoculation of culture tubes, and the study of the culture recovered, the author gives practical directions for the collection of clinical material from large and small animals and for its study and culture. Charts are given to assist in diagnosis of both *Microsporum* and *Trichophyton* infections, and a third chart sets out the cultural character of ringworm fungi isolated from animals. A list of 45 references is appended.

909. Blank (F.). **Ringworm of cattle due to Trichophyton discoides and its transmission to man.**—*Canad. J. comp. Med.*, 17, pp. 277–281, 4 figs., 1953.

From the Department of Bacteriology and Immunology, McGill University, Montreal, information is briefly presented on the symptomatology of bovine ringworm (*Trichophyton discoides*) [1, No. 359], methods of culture and diagnosis, and transmissibility of the infection to man.

910. Austwick (P. K. C.). **The isolation of Trichophyton discoides from Cattle.**—*Vet. Rec.*, 66, 16, pp. 224–225, 1 pl., 1954.

An account is given of a method developed at the University College, Exeter, for the rapid isolation of *Trichophyton discoides* from microscopically positive material. The infected hair is transferred to a drop of sterile water on a slide and the outer layers of the basal epidermal cell sheath removed with fine needles. The hair is then washed in several further drops of water and the remainder of the sheath removed in the last drop, liberating the arthrospores. These are streaked out on nutrient agar (pH 7·5) containing penicillin (20 units per ml.) and streptomycin (40 units). Colonies 3 to 4 mm. in diameter showing characteristic chlamydospores develop after 7 days at 35° C. Other methods of isolation tried invariably resulted in the overgrowth of the dermatophyte by rapidly growing species of *Absidia*, *Mucor*, *Aspergillus*, and *Penicillium*.

911. Ansell (H. B.). **Ringworm contracted from Cattle in Maine.**—*J. Maine med. Ass.*, 44, 8, pp. 241–244, 6 figs., 1953.

Three cases of tinea (*Trichophyton faviforme* [*T. verrucosum*]) acquired from cattle are reported from Portland, Maine, apparently the first records for the State. All the patients were boys—two brothers aged five and 11 and a third, also 11.

912. Zeledón (R.) & Dias (V. M.). **Considerações sôbre um caso de piedra tricospórica.** [Considerations on a case of trichosporous piedra.]—*Hospital, Rio de J.*, 44, 6, pp. 751–762, 7 figs., 1953. [English summary.]

An unusual case of white piedra, involving only the hairs of the scrotum and perianal region in a 25-year-old patient, is reported from the Instituto Oswaldo Cruz, Rio de Janeiro, Brazil. The morphological and cultural characters of the causal organism agreed with those assigned by Lodder and Van Rij (The Yeasts, 1952) to *Trichosporon cutaneum*, for which, however, the authors prefer to retain the name of *T. beigelii* [1, Nos. 18, 590, 2220, 2364].

913. Aufdermaur (M.), Piller (M.), & Fischer (E.). **Sporotrichose des Hirns.** [Sporotrichosis of the brain.]—*Schweiz. med. Wschr.*, 84, 5, pp. 167–169, 5 figs., 1954.

A detailed account is presented from the Canton Hospital, Lucerne, Switzerland, of a fatal case of cerebral sporotrichosis (believed to be the first on record) in a 42-year-old male factory-worker caused by *Sporotrichum gougeroti*. The clinical course of the disease is atypical and its differentiation from other chronic inflammations of the central nervous system is possible only on the basis of bacteriological or mycological studies.

914. Harrell (E. R.), Bocobo (F. C.), & Curtis (A. C.). **Sporotrichosis successfully treated with stilbamidine.**—*Arch. intern. Med.*, 93, 1, pp. 162–164, 1954.

From University Hospital, Ann Arbor, Michigan, the authors report the cure of a case of lymphangitic sporotrichosis (*Sporotrichum schencki*) on the left forearm of an 18-year-old farmer by means of stilbamidine (total dosage of 0·9 gm.).